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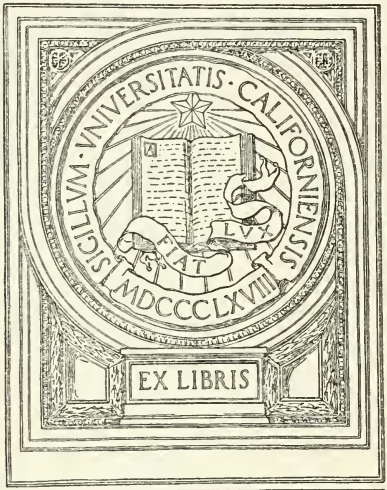

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The West the Best

— and —

California the Best of the West

A Story of Some of the Principal Features in the Business Life of the Golden State

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BY BENJ. C. WRIGHT

Author of "Banking in California 1849-1910" and "San Francisco's Ocean Trade—Past and Future."

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The West the Best

— and —

California the Best of the West

General Remarks.

That the western half of the land area of the United States is the best half, is a proposition that needs little argument to establish, if one is willing to eliminate from the consideration wealth, population and political powers. In these three factors and a few of minor importance the advantage lies with the eastern half of the country, because, as a rule, longer settled.

A plumb line north to south from the east boundary line of North Dakota fairly divides the territory of the United States between what may be termed the eastern and western halves of the country.

East of that imaginary line are 31 States, while west of it there are 17 States and the Territory of Alaska.

The land area of the 48 States comprises 2,973,830 square miles, according to the Bureau of Statistics. The 31 States on the east of the above dividing line have been given 1,119,155 square miles of this area, while the 17 States on the west of that line possess 1,854,666 square miles of land area.

The 17 Western States therefore have the largest half of the land area of the country; and as most of the wealth of the country, in the last analysis, can be traced back to the earth, the future of the Western States, if not the present, places them in the lead. This large difference in land area is an important asset in the future wealth, population and political powers of the Western States.

AMORILLO

All these 17 States have been organized in the last 67 years. Texas headed the list, having been admitted on December 29, 1845, with 262,400 square miles of land area, the largest in the country. The combined area of the largest five of the original thirteen States is only 270,700 square miles.

As the territory of the United States expanded, the people were more generous in the establishment of State boundaries, and therefore seven of the States in the western group have a land area in excess of 100,000 square miles. California is second in this list of large States, with a land area of 155,652 square miles, equal to the combined area of the largest three of the original States.

According to the last census, the population of the United States, exclusive of Alaska and the District of Columbia, was 91,641,000, an increase of a little over 21 per cent compared with the previous census.

During the same decade the population of the 31 States in the eastern half of the country increased 15½ per cent, while that of the 17 States in the western half increased over 47 per cent.

Confining the comparison to California, Oregon, Washington, and the ten adjoining States, the combined population of the 13 States shows an increase of over 50 per cent in the same interval, while the increase in the 13 original States, which include two of the largest in the country, was less than 23 per cent.

These comparisons show in which direction the population of the country is drifting. The people are going west, as they were advised to do by a great philosopher many years ago.

The western half of the country is growing more rapidly than the eastern half, because it affords more room for the people and better opportunities for advancement.

It was ascertained in the last census that there was an average of 31 persons to every square mile in the 48 States. In the 31 States in the eastern half the average was 64, while in the 17 States in the western half it was only 9. There is plenty of room here and a cordial welcome for all who will come, and they are coming in increasing numbers from year to year.

The commerce of the leading four ports on the Atlantic compared with the leading four ports on the Pacific for the fiscal years ending June 30, 1911, and June 30, 1901, shows that the Pacific ports are making the greatest gains. In the line of imports, there was a gain of 140 per cent in that decade in the aggregate of the Pacific ports, against 67 per cent in the Atlantic ports. In the line of exports to foreign countries, the Pacific ports show a gain of 30 per cent, against 16 per cent for the Atlantic ports.

While the matter of bank clearings is not so well developed in the western half as in the eastern half of the country, because of the later settlement of the former section, the aggregate increase in these clearings in the last ten years shows a large percentage of gain in favor of the western cities.

Nearly all of the gold and silver produced in the United States has come from the 17 States in the western half of the country. Michigan was the first to open up the copper deposits, and for many years held the lead in the production of that metal. A few years ago Montana supplanted Michigan in that industry. Since then Arizona has come to the front as the largest producer of copper. These western States are also large producers of lead and a variety of other metals. California has the unique distinction of practically controlling the quicksilver product of the country, as well as the largest producer of mineral oil.

The great forests of the country lie in the western half,

and the Pacific Coast States are well supplied in this particular. The redwood trees of California and the fir trees of Oregon and Washington have acquired an international reputation.

There is no rival to the salmon fisheries of the Pacific Coast in any part of the world, and the value of this industry goes into the millions annually.

The soils and climate in these western States are capable of producing nearly every variety of vegetable growth known to the world, and they are already doing it on a steadily increasing scale. In many instances, the yields are of the most surprising nature, both as to quality and quantity.

More work with less fatigue can be performed on the Pacific Coast in a year than in any other part of the country.

It is in this section of the country where they have the longest days and the shortest nights and the longest nights and the shortest days in the United States.

It is in this section where fields of ice may be observed in midsummer and fields of flowers in midwinter.

The tallest mountains and the loveliest valleys are in the West. Some of these mountains are snowcapped the year round, and are objects worth beholding. Mount Rainier in Washington on a hot summer day imprints a photograph on the memory of the beholder that can never be effaced.

The West claims the largest ocean in the world. Puget Sound is a body of water worth going miles to see. Columbia River, in Oregon, is grand and majestic. The Bay of San Francisco is without a rival.

The Grand Canon in Arizona, the Yosemite Falls in California, the great Salt Lake in Utah, and the Yellowstone Park in Wyoming are four of the many objects of

paramount interest to the globe tourists, and to all others who admire the wonders of nature.

Some of the fastest horses the world has known were bred in California, as well as the finest cattle, sheep and other live stock.

As for the inhabitants in the western half of the country they represent a good average at least of the country's population, and include some of the finest types of men, women and children to be found in any part of the world.

The foregoing comprise only a very few of the more prominent characteristics of the 17 States in the western half of the country. Even a bare enumeration of the unmentioned ones would make a long story.

While Arizona leads all other States in the production of copper, Texas is the largest cotton producing State. California is unique in the number of products in which it stands at the head, not only in the western half, but in the whole country.

Thus far nothing has been said about the noncontiguous American territory in the western half of the country.

Many people in the United States thought a great mistake was made when Alaska was purchased in 1867 at a cost of $7,200,000. Since then it has added hundreds of millions to the wealth of the country, and there are no indications of any exhaustion of its resources.

The purchase of the Hawaiian Islands by the United States in 1898 was deprecated in certain quarters, but the acquisition is now regarded as indispensable. The development of that Territory under American rule has been phenomenal.

The control of the Philippine Islands in 1899 met with much opposition from a certain class, who even now advocate a relinquishment of that trust. Such control, how-

ever, has resulted in much good all round, and it would be a grave mistake to surrender American jurisdiction for some years to come. The improved conditions of these islands under American supervision fully justify such retention.

California has been often compared to Canaan, the promised land of the Israelites. There are many features of resemblance between the two in the adaptability of the soil and climate to an extensive variety of products. In the division of the land of promise among the twelve tribes, the westerly line of one of the number was to be the great sea, meaning the Mediterranean. It will be noted that the westerly border line of California is the great sea, the greatest in all the world.

California is eminently favored in having the longest ocean coast line of any State in the country, which exceeds 700 miles. Along this coast line are numerous loading ports, available the year around, some of which can accommodate the largest vessels afloat, both for loading and unloading cargoes. Now that most of the vessels in the Pacific Coast trade are under steam, the water transportation, domestic and foreign, add materially to the business and comfort of all sections.

Washington claims a coast line of 1860 miles, but of this total 1600 miles is credited to Puget Sound, including its indentations.

California has more licensed automobiles than any other State, except New York, and, in proportion to population, many more than that State. Automobilists consider California the Paradise of the country.

MINING IN CALIFORNIA AND OTHER STATES

Pioneer Times.

When California was proclaimed American territory by military authority in July, 1846, few realized the commercial value of the victory which had been won from Mexico. There were comparatively few English speaking people in the section at that time, though scores of wanderers had drifted in from time to time, some of them as early as 1810.

Most of these had located on Yerba Buena, which was renamed San Francisco in January, 1847. At that time there were not a dozen stores in the embryo metropolis of the Pacific Coast. But there was a hopeful feeling in the hearts of those conducting the different lines of business. That has always been true of pioneers in new sections of the country and in new fields of industry.

These pioneer merchants did not have to wait long for returns, though some of them had been engaged in a primitive way for upwards of a decade. When the tide of prosperity set in it came suddenly and from an entirely unexpected source. As the sun rose on the 1st of January, 1848, no one had the slighest idea of what the new year had in store for them. They naturally expected there would be some improvement over the previous year. Had this only been realized, they would have been satisfied. Thus far they had made some progress in their new environments, and that was sufficient encouragement to stimulate patience and to inspire hope.

Urgent Need Providentially Supplied.

Before the end of the first month of the new year, there was a report that gold had been discovered in a mill race that was being constructed for a sawmill at Coloma, near

Sacramento. The discoverer was James W. Marshall, an American, in the employ of Captain Sutter. The value of the discovery was at first questioned. As soon as tests were made, all doubts vanished, and excitement over the discovery became intense. Had the facilities for communicating with different parts of the country and of the world been as extensive then as they were a few years later, the unprecedented rush for California would have commenced in the spring of 1848 instead of nearly a year later.

The discovery of gold was a big advertisement to this latest addition to American territory. Up to that time the production of gold in the United States had been confined to a small area on the Atlantic side and to a very limited amount annually. Prior to 1848, the amount of gold produced in the United States, according to Government reports, was less than $25,000,000. From April 2, 1792, to July 31, 1834, the product was $14,000,000. From the last-named date to December 31, 1844, the total was $7,500,000. In the following two years the product was $1,008,000 and $1,140,000 respectively. In 1847, the year immediately preceding the gold discovery in California, the yield had dwindled to $889,000. Thus in 55 years, the product reached the liberal sum of $24,537,000!

This sum, if it had all been retained in the country, would have been equivalent to one dollar for each inhabitant. There is no complete data of the movement of gold to and from the country for 1820 or the earlier years. From 1820 to the close of 1847, it is known that the amount of gold sent abroad was much larger than the amount received, and therefore the stock of gold in the country was much less than the amount reported to have been produced up to that date.

According to the census of 1850, the United States had a population of 23,192,000, of which 3,638,800 belonged to

the colored race. These people must have been endowed with some courage and a good deal of faith to undertake to face their business problems with a gold capital of not more than $20,000,000 of domestic production. Of course, foreign supplies were available when the balance of trade was in favor of the country. The United States mints must have relied upon such supplies to some extent in order to report a gold coinage of $52,000,000 to the close of 1846, though the customs reports fail to show any such excess of gold imports over the gold exports. It is probable that foreign gold received into the country through private channels may account for such a large gold coinage prior to 1847, when the total domestic gold product to the close of 1847 was less than $25,000,000.

Treasure Vaults Opened.

The discovery of gold deposits in California in 1848 was very opportune. It was more. It was providential. It makes one shudder to think what might have happened to this country if no such discovery had been made at the time, or even for two decades later. The country was at peace with the world and fairly prosperous in 1848, and for several years later. There was some agitation over the slavery question between the North and the South, which became more intense and general as the years passed by. Anxiety concerning the outcome of this agitation increased with the flight of time. At last it became apparent that this difference of opinion on the right to buy and sell human beings, the purchasers to hold them as chattels, would some day end in serious trouble.

The outbreak came early in 1861 in the form of a civil war between the anti-slavery and pro-slavery sections of the country. This was continued for four years, at a great loss of life, and a great waste of money.

California had been producing liberal supplies of gold for thirteen years prior to the inauguration of the war. It was this gold and that produced while the rebellion was in progress that formed such an important factor in sustaining the credit of the United States abroad during that trying period. It was the country's only dependence in that line of support. Even with this substantial aid, the United States had to pay well for foreign financial help.

The California gold discovery also had an important bearing on the world's gold supply. Up to that event, the gold product of the entire world from 1493 to 1848 was only $3,085,437,000. This was the aggregate contribution of all the mines of the world during that interval of 356 years. The average annual product for that period was $8,667,000. If the years subsequent to 1848 had not shown a much higher annual average than that, the world would have been obliged to lean much heavier on credit money than it does at present.

The finding of gold in California in such liberal quantity was the needed stimulus in renewing the world-wide search for the yellow metal. It is needless to say that these efforts have been eminently successful, both in this country and in other lands. About forty years ago an eminent scientist in Europe gave it as his opinion that the production of gold had reached its climax, and was even then on the wane. Even other people, with much less reputation at stake, have at various times expressed similar opinions. Within ten years after California had begun to produce gold there were those who proclaimed that the supply in that State was exhausted; and some of these were so sincere in their belief that they left the State in search of new diggings elsewhere. Yet now, after 65 years of steady gold production, California is still supplying from $15,000,000 to $20,000,000 in gold per annum.

Effect on the World's Gold.

While the world's gold product from 1493 to 1848 (a period of 356 years) was $3,085,437,000, or an average of $8,667,000 per annum, the world's gold product from 1848 to 1910 (a period of 63 years) was $10,760,788,600, or an average of $170,806,000 per annum.

In other words, the world has produced more than three times as much gold in the last 63 years as it did in the previous 356 years.

This comparison has much significance. For the heavy increase in the gold product of the world since 1848, California is justly entitled to considerable credit. The successful prosecution of the industry in that State was an impelling motive in the hunt for deposits of the precious metals in this country and elsewhere.

When the primitive methods of washing gold from the river beds in California began to show lessened yield, the mountains were sluiced by hydraulic power and with very satisfactory results, until prohibited because of the alleged damage to rivers and other streams and the adjoining lands by the debris incident to that form of mining.

Quartz mining was also resorted to when the washing from the streams began to fail of producing the usual supply of the yellow metal. Dredging the auriferous gravel beds with powerful machinery was also introduced with good effect. The last-named two forms of mining are still maintained.

As late as 1906 there were upwards of one thousand producing mines in California, of which nearly two-thirds were placers of various kinds, the other being quartz mines. The non-producing claims were much more numerous. Of the gold produced for that year, about 40 per cent was from the placer mines. The dredging machines alone furnished about one-quarter of the total product. This form of

mining has of late years been carried on in several of the northern counties, the most prolific of which are Butte, Yuba and Sacramento.

Mining prospectors from California did much to open up deposits of the precious metals in adjoining States and Territories both to the north and to the south.

Rumors of gold discoveries on Fraser River in British Columbia attracted from 15,000 to 20,000 gold seekers from San Francisco in the Spring of 1858, only to return in the Fall of the same year, sadder and wiser than when they left.

In the following year there was a considerable exodus to the western part of the Territory of Utah, since known as Nevada, with much better results. Some good indications in that section were found in the Fall of that year, and, with pans and rockers, about $30,000 in gold was cleaned up in the last quarter of the year.

This was the beginning of mining in Nevada, which has since been prosecuted with commendable zeal and, in the main, with satisfactory results.

Nevada Opens Rich Mines.

Three small quartz mills were shipped into Nevada from California in 1860 resulting in a bullion output of $750,000, of which $550,000 was gold. One of these mills was the property of the Ophir Company, and another the Central. In the following two years the value of the gold output was larger than the silver product, though in the subsequent years, for the most part, it was less, the proportions being about 45 per cent gold to 55 per cent silver.

The Comstock Lode, in Nevada, where these operations were inaugurated, is estimated to have produced from 1859 to 1902, both years inclusive, $148,145,385 in gold, $204,653,040 in silver and $18,449,863 from tailings, making a

grand total of $371,248,288. Since 1902 several more millions have been added from the same source, and the work is still in progress.

It would be difficult to duplicate an area of the same size as that covered by the Comstock Lode in Storey County, Nevada, that has furnished the world with a value in gold and silver as large as that named above in the same number of years.

Of the thirty or more companies operating on the Comstock Lode not a single one has been able to get along without calling upon stockholders for financial aid. A table of assessments levied to the close of 1902 shows a total of $80,101,000, while the dividends paid in the same interval were $129,219,500. These dividends came from fifteen mines, including $78,213,600 from the Con. Virginia and California mines, $27,300,200 from the Belcher and Crown Point mines, $4,460,000 from Savage, $3,848,400 from Gould & Curry, $3,080,000 from Chollar Potosi, $2,208,000 from Yellow Jacket, $1,880,000 from Hale & Norcross, $1,592,800 from Ophir and $1,350,000 from Kentuck.

During the first few years, the leading mines on the Comstock were Ophir, Gould & Curry, Savage and Hale & Norcross. At that time and for several years afterwards, sales were based on feet in the claim rather than on shares in the capital stock.

Two or more years prior to the discovery of good ore bodies in the Belcher and Crown Point mines in 1871, mining operations on the Comstock Lode had not been very successful and some of those most closely identified with the work were discouraged over the meagre returns and the large demands for money to meet payrolls and other expenses.

At about the crucial point in this dull period an effort was made to turn over the whole business to a foreign

syndicate for about the market value of the claims in operation, say about $5,000,000. The holders considered that they would do well if they could effect this bargain at that figure.

Had the Syndicate accepted the offer to sell, the owners would have had sincere cause for regrets. The ore body developed in the Belcher and Crown Point mines in 1871 was the best yet uncovered on the Lode, and put new life into the market for the next two years or more.

Upon the exhaustion of that ore body the outlook again became gloomy. Some thought it was useless to expect any further favorable development. Even those most closely allied with the work shared these pessimistic views.

Belcher and Crown Bonanza.

The Belcher and Crown Point bonanza had greatly enhanced the value of all Comstock shares, and when that gave out, the shrinkage in these values was terrific.

The first indications of a body of good ore in the Belcher and Crown Point mines were observed in the closing months of 1871. According to the San Francisco Weekly Stock Circular of October 15, 1870, the Belcher mine had paid no dividends up to that time, but there was an assessment pending of $2 per share, which had become delinquent on the 6th of that month. The Belcher mine contained 1040 feet, which at that time was divided into 10,400 shares of the par value of $100 each, so this particular assessment amounted to $20,800. The shares were then quoted at $3.50 asked and $3 bid. The bullion product of the mine for 1869 was $18,312, but nothing was reported for 1868. Shares in the Belcher mine sold at $18 in January, 1870, advancing to $35 in the following March and April, then declining to $1 in October, closing in December at $6, which of course included the assessment of $2 added in October.

The Crown Point mine produced bullion to the value of $1,086,200 in 1868, but only $105,700 in 1869. This mine had paid some dividends, including one of $5 per share in September, 1868. That was the last dividend up to their renewal in 1872. An assessment of $3 per share became delinquent on the mine in September, 1870. The mine contained 800 feet, divided into 12,000 shares of the par value of $250 per share, so the assessment was $36,000. The shares sold as high as $18 in January, 1870, and $28 in the following March, the top price for that year. In the following November they dropped to $1 per share. The improvement noted in the mine at about that time sent up the price to $10 and $18 in December, closing at $15 at the end of that month.

The developments noted in the Belcher and Crown Point mines in the winter of 1871 became to be better appreciated in January, 1872, and for the first six months of that year the excitement in mining shares ran very high, exceeding any previous craze known up to that time. The volume of business increased rapidly, and prices went up by leaps and bounds. The movement affected the shares in nearly every mine on the Comstock Lode, good, bad and indifferent. It was argued that similar discoveries might be found in other sections of the Lode. At any rate, it was considered a safe gamble to speculate in these securities while the excitement lasted.

At that time a record was kept of the value of the sales made in the San Francisco Stock Board. This record for the first six months of 1872 shows sales of $17,779,000 in January, $24,774,000 in February, $17,629,000 in March, $36,761,000 in April, $18,747,000 in May, and $9,000,000 in June, or a grand total of $124,690,000 for the six months,

against $63,435,000 for the same time in 1871, $28,637,000 in 1870, $42,502,000 in 1869, and $61,513,000 in 1868.

During the first six months of 1872, the Belcher mine paid $1,248,000 in dividends and the Crown Point $1,560,000. The sales of mining stocks in the first nine months of 1872 amounted to about $160,000,000 a record total up to that time.

The bullion product of seventeen of the most prominent mines on the Comstock Lode in 1866 was $11,732,000; in 1867 it was $13,626,000; in 1868 it was $8,449,800, and in 1869 it was $7,265,400. It was still much less in 1870.

In October, 1870, the market value of all the shares in seventeen of the leading mines on the Comstock Lode was only $4,923,000. It was even a little under that total a year earlier.

Under the excitement of 1872, incident to the discovered bonanza in the Belcher and Crown Point mines, these same shares were inflated to a value of many millions more than they were considered to be worth in October, 1870.

There is an interesting story concerning the operations in the Hale & Norcross mine. This company was incorporated in March, 1861, and was one of the pioneer companies to operate on the Comstock Lode. The claim contained 400 feet, divided into 800 shares of a par value of $500 each, making a capital of $400,000. In 1867 the capital was increased to $1,200,000 by raising the par value of the shares from $500 to $1,500. In 1868 the shares were increased from 800 to 8,000, while the value was reduced from $1,500 to $200, making a capital of $1,600,000. The first recorded sale in the mine was in October, 1862, when one foot sold at $330, equal to $16.50 per share as the stock was apportioned in 1870. For the five years ending in March, 1871, the mine produced 180,920 tons ore, yielding $5,481,137, of which $3,383,365 was gold and $2.097,772

was silver. The first dividend was paid in April, 1866, and the total dividends for the five years following were $1,518,000. No dividend was paid 1868-69. The assessments to March, 1871, were $610,000. In one of these years, when there was a fight for control, two feet of the mine that gave the victory to one of the factions sold for $7,100 per foot, giving the mine a nominal value of $2,840,000. As things have turned out, the mine was not worth that, or even a much smaller sum. There have been no dividends from the mine since August, 1888, while the total amount paid up to that time was $1,888,000. In the palmy days of the mine the shares brought good figures. At the time when the first dividend was paid, the shares sold at about $50, but before the end of the year they had risen to $125. From $115 per share, the highest price in 1863, the stock sold down to $6 per share in 1865. The highest price prior to 1871 was $355 in 1868. As showing the variable character of such stocks, $40 was accepted in the same year.

Other Comstock Mines.

Many interesting facts might be cited about several more of the early located mines on the Comstock Lode, some of which had brief seasons of prosperity, while most of the remainder have had little to show for the amount of labor and money expended upon them. In the latter list is the Bullion, which has been an assessment proposition from the start. This, however, is only one of many in the same category.

Of the thirty or more mines operated on the Lode between 1860 and 1870, comparatively few ever paid a dividend.

The Ophir was one of the first of the Comstock mines to take rank as a dividend payer. In 1870 32 corporations were operating on the Lode, claiming 46,244, lineal feet

and having a nominal capital of $55,131,600, divided into 267,500 shares, the par value of which varied from $100 to $500. Ophir had 1,400 feet and a capital of $5,040,000 in 16,800 shares. It has paid $1,866,920 in dividends to July, 1912, but nearly the entire amount was paid prior to 1867. The mine was divided many years ago, the Mexican corporation taking one half.

The big body of pay ore opened up in the Belcher and Crown Point mines at the close of 1871 was exhausted in a little over four years, but during that interval stockholders fared well. The Belcher mine paid $412,200 in dividends prior to 1867, and $14,976,000 between January, 1872, and April, 1876, making a total of $15,397,200 to the last-named date. This was the largest amount paid in dividends by any of the earlier Comstock mines up to that time.

The Crown Point mine was a good second in the same list. Its dividends prior to 1867 were $239,000. It paid $264,000 in the first five months of 1867, and $360,000 in the five months ending September 30, 1868. There were no further dividends until June, 1871, when $120,000 was paid and the same amount in each of the three following months. The dividends were resumed in January, 1872, from the new body of rich ore. In seven months of that year the mine paid $1,860,000, and in the first nine months of the same year the Belcher paid $2,184,000.

The payment of $4,044,000 in dividends by these two mines in a single calendar year was the best record that had been made up to that time, and stockholders were quite elated over the returns.

But there were even more liberal things in store for them in the following two years, though they did not know it at the time. In 1873 the Belcher paid $6,760,000, and the Crown Point $5,100,000, and in 1874 the former paid $5,304,000 and the latter $3,400,000. Those two years were

the best in both mines. The Crown Point paid a dividend of $200,000 in January, 1875, making a grand total of $11,903,000. In the same month the Belcher paid $312,000 and in the first four months of 1876 it paid $416,000. Neither mine has paid a dividend since.

The Savage mine paid $1,332,000 in dividends prior to 1867. In 1867 it paid $1,600,000, together with $1,184,000 in 1868 and $344,000 in the first five months of 1869, making in all $4,460,000. No dividend since June, 1869.

The Gould and Curry mine paid $3,800,400 in dividends prior to 1867, but only one of $48,000 since. The last-named was paid in October, 1870, making $3,848,400 in all. This mine was quite popular in the early sixties.

The Chollar-Potosi began paying dividends in 1867, when $420,000 was thus disbursed. It paid no dividends in the following year. Dividends were resumed in June, 1869, after an interval of seventeen months. There was no further interruption in these monthly disbursements until March, 1872. It paid $294,000 in 1869 and $658,000 in 1870. The best dividend year in its history was 1871, when it disbursed $1,652,000 in that form. In January and February, 1872, two more dividends of $28,000 each were paid, making a record up to that date of $3,080,000. Subsequently the mine was divided into two equal parts, one to be known as Chollar and the other as Potosi. There has been no dividend paid from this property since February, 1872.

The Yellow Jacket mine was a favorite in its prime. Dividends paid prior to 1867 amounted to $744,000, while in the subsequent years down to August, 1871, an additional sum of $1,464,000 was paid out in a similar way, making a grand total of $2,208,000. There has been no other dividend. Pending the payment of one of its dividends the mine sustained much damage from a fire in the

shaft. The pending dividend was rescinded, and an assessment levied.

Prior to May, 1876, seven of these eight pioneer mines on the Comstock paid $42,757,500 in dividends. The Hale & Norcross mine is not included in that total, because its dividend record did not close until August, 1888. However, the few small dividends recently paid by the Ophir are included.

Outside of these eight mines, there were some dividends paid by others in the same location. Kentuck was perhaps the most prominent in this omitted list. This claim covered only 95 feet, and, with three exceptions, was the smallest of the 32 in operation on the Lode in 1870. It had a very good dividend record, having paid $1,095,000 from 1867 to February 1, 1870. The Imperial mine with a claim of only 184 feet paid $300,000 in 1867 and one dividend of $24,000 in 1868, but nothing afterwards. The Empire Mill paid $49,200 in 1867, but nothing since. The Sierra Nevada paid six monthly dividends of $7,500 each in 1869, together with three of the same amount and one of $15,000 in 1870, and one of $20,000 in January, 1871, making $102,500 in all. This mine at one time was expected to show up a large body of milling ore, and the speculative movement in the shares sent up prices rapidly and to a high figure, but the expected bonanza did not materialize. Confidence paid $204,500 in dividends, but that was many years ago. Silver Hill has paid some small dividends.

Con. Virginia Bonanza.

The bullion yield of the Belcher and Crown Point mines from 1872 to 1876, inclusive, was $64,000,000. This large amount was a great stimulus to those operating on other sections of the lode, though some of them up to that discovery had become quite discouraged. This was especially

true of those operating at the other end of the lode. Some of these were staking much on what they considered their final test. Fortunately, this last effort proved successful. Ore had been discovered in the Con. Virginia ground. This claim was then registered as containing 1160 feet, and was divided into 11,600 shares of the par value of $300. Before this discovery was made public some additional ground adjoining the claim was secured. Subsequently this ground was divided, and a portion of it was incorporated under the name of the California Mining Company.

The first indications that a body of good ore had been struck were soon realized to the satisfaction of those who had worked long and hard, patiently waiting for the revealed development. The owners immediately got busy on the find.

The Con. Virginia and California mines had each been incorporated with a capital of $10,800,000, divided into 108,000 shares. On May 7, 1874, the Con. Virginia paid its first dividend at the rate of $3 per share, or $324,000. Nine more dividends at the same rate were paid in the following nine months. These were followed with thirteen at $10 per share, or at the rate of $1,080,000 per month.

During this interval the ore taken from the California mine had been sold to the Con. Virginia Company, the controlling interest in both being held by the same parties.

Early in 1876 the capital was further increased to 540,000 shares, or at the rate of five for one. This was followed by a reduction in the monthly dividends from $10 to $2 per share. This reduction in the rate per share, of course, did not affect the gross amount of the monthly dividends, which had been at $1,080,000 per month from March, 1875. The first dividend of $2 per share on the 540,000 share basis was paid by the Con. Virginia on April 4, 1876. These $2 per share monthly dividends were main-

tained for twenty-one consecutive months. These were followed by two at the rate of $1 per share, then five at 50c per share.

The California mine paid its first dividend on May 8, 1876, at the rate of $2 per share on 540,000 shares, or $1,080,000. These were maintained for twenty-six consecutive months, and then were immediately followed by four monthly dividends of $1 per share and four at 50c per share on the same number of shares. California paid its last dividend in December, 1879. Con. Virginia suspended the payment of dividends after the one paid in August, 1880. Up to that time, the combined dividends of both mines reached the magnificent sum of $74,250,000. No other two mines on this coast have equalled that sum in the same interval.

The last dividends on both of these mines were 50c per share on 540,000 shares in each. For two years prior to the payment of these dividends, both mines had been shorn of their former prosperity. At the time California paid its last dividend the stock was selling at $3, and during the month that Con. Virginia paid its last dividend the stock ranged from $2.50 to $4.50 per share.

Soon after the suspension of this splendid dividend record, stockholders were called upon to put up money on account of assessments. Things went from bad to worse for the next four years, despite the most economical management that could be devised. The mines had the appearance of being thoroughly and hopelessly exhausted.

Rather than abandon the properties altogether, they were consolidated under the name of the Consolidated California and Virginia. At the same time the combined capital of $108,000,000, in 1,080,000 shares, as formerly represented by the two mines, of the Consolidated California and Virginia was reduced to $21,600,000,

in 216,000 shares. For two weeks previous to the issue of the new shares, California had been selling at 30c to 40c per share, and Con. Virginia at 5c to 25c per share, and the day before the issue at 35c and 15c respectively.

The new stock was put out on 16th October, 1884, and the first sales were at 60c per share. To show what investors thought of the consolidation of the two properties and the radical reduction in the paper capital, it is only necessary to say that at 35c for California shares and 15c for the shares of the Con. Virginia, the prices paid for the old shares on the 15th October, the two mines had an aggregate market value of $270,000, while at 60c per share for the new issue the same property was estimated at $129,600, showing a depreciation of $140,400 in a single day.

Probably the lowest price for the property prior to the consolidation, as based on the market value of the shares, was in April, 1884, when the estimate was $54,000. In December, 1884, the new shares sold at 40c to 5c. At the latter figure the market value for the property was only $10,800.

In strange contrast to this remarkable depreciation, it may be stated that on January 5, 1875, when each mine was divided into 108,000 shares, under rumors that the number of shares would be considerably increased very soon, California sold at $780 per share and Con. Virginia at $715. These were the highest prices ever paid, and on the basis of 108,000 shares in each mine, it presumed a market value of $161,460,000 for both mines, which, just ten years later, by the same process of reasoning, were reckoned to be worth only $10,800. The first assessment on the new stock was levied in November, 1884, and the second in January, 1885, the former being 30c per share and the latter 20c. After this new money had been paid in the

stock fell to 10c per share, thus showing a poor return for the 50c paid.

These two assessments gave the company $108,000 of new capital, which, added to the bullion produced during the year, furnished a surplus to justify the payment of a dividend of 30c per share, which was paid on February 12, 1886. For the fiscal year ending October 1, 1886, the bullion product was $1,482,625, of which about one-half was gold.

Some new ground in the old California mine was being worked at that time. In his report for 1886, Superintendent Patton said that one of the drifts had "passed through some fair milling ore, showing favorable indications for an ore body of some extent and value, which may be developed by further explorations. This portion of the mine above the 1400-foot level is virgin ground. The old California ore body did not extend up to this level."

From 1885 to September 30, 1897, the Consolidated California and Virginia paid a number of dividends, aggregating $3,898,800. About six years later, three more dividends of 10c per share each were paid, amounting to $64,800. There have been no dividends since. The total dividends from the property, as worked by the three corporations, to September 1, 1912, is $78,213,600. The gross value of the bullion product from the property for the same interval is about $135,000,000. This bullion averaged about 45 per cent gold and 55 per cent silver. The silver was reckoned at its coinage value for several years, namely, $1.29 per ounce, and the discount on the same charged to expense account. Up to October, 1878, this discount amounted to $6,140,600. Work on the mine is still in progress.

Dividends From Comstock Lode.

Work on the Comstock Lode has been carried on for 54 years, and the known dividends aggregate over $200,000,000. If these represent only 50 per cent of the bullion product, the total yield of the Lode is in excess of $400,000,000. It is known that ten of these Comstock mines have paid $201,110,700 in dividends. It is further known that ten other mines in the Lode have paid upwards of $2,000,000 in dividends. It is further known that the bullion product of the California and Con. Virginia mines for the first five years returned 70 per cent in dividends. The bonanza in the Belcher and Crown Point mines netted over 50 per cent in dividends. The ore bodies in these four mines were the most extensive ever developed, and from these examples the estimate of the value of bullion obtained from the Comstock Lode appears to be fully justified.

This first discovered mining ground has never been abandoned. For the past thirty years these Comstock mining companies have kept up active operations in spite of many discouraging circumstances. But few dividends have been paid during that interval. Not a single year has passed without a bullion product from one or more of these mines, but the aggregate yield of all of them for any one year of the past thirty has not covered the aggregate annual expenses of the whole group, and assessments have made good the deficit.

Other Mining Camps in Nevada.

Before the end of the first decade of mining on the Comstock, other sections of Nevada were being exploited for mineral products, and in some cases with good results. The first division of profits from these enterprises began

about 1870, and continued, with occasional interruptions, until about 1890.

According to the record of the writer, one of the best paying Nevada mines in that interval, outside of the Comstock mines, was the Eureka Con. This company paid its first dividend in February, 1871, amounting to $50,000. In all, it paid 92 dividends up to the end of July, 1888. The grand total of these dividends was $5,192,500. This means that the mine was a good bullion producer during that interval.

The Meadow Valley mine paid its first dividend in November, 1871, and within a space of two years it paid $1,260,000 in eleven dividends.

The Northern Belle Mill and Mining Company paid its first dividend in June, 1875, and the total of the 43 dividends paid to the end of May, 1888, was $1,900,000.

The Manhattan mine at Auston paid 11 dividends between May, 1875, and February, 1886, amounting to $447,500.

The Grand Prize mine paid two dividends of $200,000 in the Fall of 1877.

In the last six months of 1879 the Belle Isle mine paid $300,000. The Martin White paid $90,000 in 1879 and $11,000 in 1886, and the Navajo $325,000 from 1881 to 1885. It is possible that some of these mines have paid dividends since 1888.

The Raymond & Ely mine, in Lincoln County, Nevada, had a spectacular dividend record for a brief period. Its first dividend was paid in March, 1871. After paying four monthly dividends of $30,000 each and one of $45,000, these disbursements were suddenly raised to $120,000, then $150,000, and finally $210,000 per month. Nine dividends of $615,000 were paid in 1871, eleven of $2,070,000 in 1872, and three of $390,000 in 1873, the last one in September.

After paying $3,075,000 in dividends in that brief interval, the movement ceased. This was followed by a call upon stockholders for money to meet expenses. A record of those calls is not at hand, but it is known that the assessment of $3 per share levied in November, 1875, was the fifth.

The total dividends paid by the Nevada mines from 1860 to date cannot be given with any definiteness, because the gold and silver product of these mines is not known. Various estimates of this product have been given, ranging from $400,000,000 to $800,000,000 in round numbers. It is considered good opinion to claim a bullion product of $600,000,000 for that State, and to assume that from 40 to 50 per cent of the product, whatever it may be, has been returned in dividends to the stockholders or owners of the claims that have been productive to a greater or less extent. It is known that some mines have paid dividends equal to 50 per cent of the value of their bullion product, but that is above the average.

Goldfield and Tonopah Mines.

In the past twelve years two new and important mining districts have been opened in Nevada. These are the Tonopah in Nye County, and the Goldfield in Esmeralda County. It was in May, 1900, that Jim Butler found ore in Tonopah, and the first ore claims were located in the following August, and in June, 1901, eight of Mr. Butler's original claims were sold to the Tonopah Mining Company for $336,000.

The Tonopah Record of May 25, 1912, gave an exhaustive review of the mines in the Tonopah district. The bullion yield of nine of these mines from 1900 to April 30, 1912, was $51,527,283. Of this total, the Tonopah Mining Company was credited with $29,213,153 and the Tonopah-

Belmont with $10,413,144. One of the other seven mines produced in the same interval $4,600,000 and another $3,023,000.

Since January 1, 1902, six of the Tonopah mines paid $13,003,559 in dividends to April 30, 1912, though the first by the Montana-Tonopah was not paid until December, 1903.

In May, 1912, there were seven regularly producing mines in Tonopah. Six of these were operating six mills of 220 stamps, and crushing 37,400 tons ore monthly. Another 60-stamp mill has since been added. Four of the mines were paying regular dividends and two more were expected to pay dividends very soon. There were 69 miles of underground workings in these mines, 1,260 operators, with an average monthly pay roll of $237,000. The Tonopah Mining Company paid $1,000,000 in dividends for 1912 and $10,050,000 from the start—11 years ago.

While silver is the predominant metal in the Tonopah district, gold holds a similar rank in the Goldfield district. Indeed, some of the ore samples in the latter district have been nearly equal to refined gold.

In 1904 the mines of the Goldfield district realized $2,000,000 from the sale of ores sent elsewhere for reduction. This camp has been quite prosperous from the start, especially since it began the reduction of its own ores. Of late years the bullion product has averaged from $750,000 to $1,000,000 per month. According to the Daily Tribune of Goldfield, the best approximate estimate of the product for 1911 was $14,250,000, while the dividends for the same year were $7,320,461.

The principal bullion producer and dividend payer in the Goldfield district in the last three years has been the Goldfield Consolidated Mines Company. This company has been paying quarterly dividends of 30 cents per share for

some time. This means a disbursement of $389,000 per month, equal to $4,677,000 for the year. A dividend of 30 cents per share was paid in October, 1912. According to the official report, dividends paid to the close of 1912 were $23,839,067, a fine record.

At that time and for some weeks previously the yield of the property had begun to fall off, and fears of a suspension of dividends began to be entertained. It is barely possible that the property controlled by the company will not be as profitable as it has been. But it is not safe to assume that this will be the case. Further explorations may show a still larger body of rich ore.

The significance of these discoveries (Goldfield and Tonopah) will be more fully realized and appreciated by the statement that in 1899 the Comstock mines reported the smallest product in their history, the total for that year being only $171,678. Fortunately there were other sections in the State that were more prosperous, and a grand total of $3,740,790 was reported in that year, of which $2,498,900 was gold and $1,241,900 was silver. For that and the following three years, the silver produced was reported at its coining value of $1.29 per ounce. In all the subsequent annual reports the white metal has been reported at its commercial or gold value.

Since 1899, with one exception, there has been a steady increase in the product of the precious metals in Nevada. This has been especially noteworthy in the last six years. Even the Comstock mines have contributed something towards the increase from year to year. In 1900 the Comstock mines reported a total of over $700,000, and in the following two years a further gain in the product, which was given at over $1,200,000 for each year. The leading factors in the increase since 1902 in Nevada have been the Tonopah and Goldfield districts. In 1905 the gross

product of Nevada was $8,935,800, and in the very next year $12,803,600, of which 75 per cent was gold. The product for 1910 approximated $26,000,000, including nearly $19,000,000 in gold. From 1899 to 1910, both years inclusive, a period of twelve years, Nevada furnished the world with $140,407,785, of which $94,846,586 was gold.

Californians in Other Mining Districts.

No apology is needed for the large amount of space which has here been devoted to the consideration of the mining interests of Nevada. California from the very beginning has taken a prominent part in the development of this industry in that State. It has contributed men, machinery and money on a liberal scale in the prosecution of the work. It was the first to appreciate the importance of the undertaking, and it has persistently followed its endeavors through the darkest days and in the face of the most unfavorable reports that have ever been given publicity. California is still Nevada's best friend among all the States, and rejoices in the recent tokens of renewed prosperity in its mining and other industries.

But California has not confined its interest in the mining industry to the developments in Nevada. It has freely and liberally extended its aid, financial and otherwise, to the establishment and perpetuation of the same industry in adjoining States and Territories throughout the Trans-Mississippi region. The experience of California miners has been a potent factor in this business. All who engaged in mining in California in the pioneer years were not trained miners. In fact, most of them had little idea of the value of the gravel they washed or of the quartz they blasted. But there were some trained miners among them, and the novices made rapid progress in the new employment.

The mining industry, once established in the different States and Territories in the great Pacific region, was prosecuted with vigor, and it is still being pursued in nearly all the localities where it first obtained a foothold. This work has been going on ceaselessly since 1848, and there are no indications of an early abandonment.

Ten of the States in which this industry has been given hospitality have for many years been producing an average of $1,000,000 in gold per annum as a minimum amount. Most of them have done much better than that, even in the more recent years.

Among these States which have been so prolific in the production of the precious metals, California has always taken high rank as a gold producer. It was the first State to take up the industry on this coast, and in point of aggregate yield it is without a peer in the field of gold. Its annual product of the yellow metal, until quite recently, was not equaled by any other State or Territory in the country, and for the first eighteen years it was larger than the combined product of all the other States and Territories. In one of these years it stands credited in the Government reports with a product of $65,000,000 in gold. Its total yield of gold from 1848 to 1912, both years inclusive, has been variously estimated, but a very conservative figure gives the amount at $1,609,737,000 to January 1, 1913.

Rank of Gold States.

The rank of the gold producing States and Territories has been changed many times since California commenced operations along that line in 1848. Up to that time the production of gold, so far as this country is concerned, was confined to some half dozen States, mostly in the South, principally Georgia, North and South Carolina and Virginia. The combined gold product of all the Atlantic

States, in the palmiest days of the industry, probably never reached $500,000 in any one year.

California assumed first place in the production of gold at the very start, and it maintained that lead annually until 1897, when it gave way to Colorado, and was a good second in the race until 1906. The somewhat sudden and unexpectedly large yield of gold in Alaska in 1906 put that Territory in the second rank and California in the third, leaving Colorado still in the first. That was the condition for three consecutive years. In 1909 and again in 1910, California went back into the second place, and Alaska assumed third place. In 1911 California resumed first place, the position it held from 1848 to 1896, both years inclusive. Colorado dropped to second place in 1911, Nevada rose to third place, and Alaska was forced into the fourth place. In 1912 California was again in the lead.

In 1894 Montana held third place, but two years later South Dakota took that rank and held it, with one single exception, until 1901. Then Alaska took it for four years, and again in 1909 and 1910.

South Dakota ranked fourth in 1894, 1895 and, with one exception, from 1900 to 1905. Since then, with one exception, it has held the sixth place.

Idaho was fifth in 1894, then sixth for the following two years. Since then it has generally ranked nine, and for four of the intermediate years was in the tenth place.

Oregon was in the sixth place in 1894, but in four of the subsequent years it held the ninth place, and during the remainder of that interval it occupied the tenth place.

Arizona occupied seventh place in 1894 and again in 1898, but in the subsequent years it held sixth place for six years and fifth place in 1895 and 1896. From 1904 to 1911 it held the eighth place.

Nevada ranked eight in 1894 and 1895. In the subse-

quent year to 1903 it held the same rank for three years, seventh for three years and fifth for two years. In 1904 and 1905 it was again fifth. In the next five years it assumed fourth place. In 1911 it took the third rank for the first time, the highest it has ever held. Nevada has always been classed as a silver State, as most of the bullion produced up to 1908 carried at least 55 per cent in silver, and in some of the sections considerably more.

Utah held tenth place in 1894. For the next four years ninth and eighth. For the next six years it was seventh and eighth. Since 1905 it has held sixth place six times. It was in the fifth rank in 1899 and 1907.

Searching for the precious metals in the Territories of Oregon and Utah began in the early fifties. The seekers were looking for gold rather than silver. If what they unearthed did not show indications of the yellow metal, it was cast aside as useless. Following in their wake were some experts who saw a silver value in what had been discarded by others. This was the beginning of silver mining on this coast.

As at that time and for many years afterwards, silver dollars were just as good as gold dollars, and at times commanded a small premium over the latter, the discovery of silver ores meant much to those who could find and work them. This led to an extension of the search into the adjacent Territories of Idaho, Colorado and Montana in the northeasterly direction from California, and to the Territories of Arizona and New Mexico in the opposite direction.

Colorado and Montana soon took the lead as silver producing sections of the country. According to the Mint Director's report for 1891, these two States produced 65 per cent of all the silver product of the United States for that year. In the same year Utah ranked third in the list,

Idaho was fourth and Nevada was fifth. These have been the ranking silver States, though not always in the same category. In 1910 Nevada occupied the first place and Colorado was fourth.

While it is true that most of the mining experiments in this country have been utter failures, and while some of them have involved heavy losses to those interested, every mining district of any consequence has produced one or more good paying mines. Yet the risks in legitimate mining enterprises are probably no greater than in many other departments of business. Mining has been phenomenally successful in certain sections of this western part of the country, and this has led to the promotion of many illegitimate enterprises.

In the annual report of mining in Nevada in 1906, as published in the Mint Director's report, there were 1,500 mines in operation in that State, but only one-third of this number produced any bullion. This illustration is probably measurably true of other years in that State and of other mining States and Territories in all years since the inception of the industry. Attractive business enterprises of all kinds breed counterfeit imitators largely in excess of genuine operators.

It must be said to the credit of California that it has developed comparatively few of these mining fakirs. This is largely due to the fact that mining has been conducted by private capital, sometimes of course under a corporate name, but rarely as stock jobbing enterprises. As soon as it became the rule to incorporate mining claims, the door was thrown wide open for the introduction of many illegitimate schemes.

Mining in Other Pacific States.

Mining in Utah has developed some good properties. One especially easily recalled is the Ontario mine. This was a silver proposition. It paid its first dividend in March, 1877, at the rate of 50 cents per share on 100,000 shares. Monthly dividends were regularly maintained for many years, the only break occurring in 1883, when only four dividends were paid. The hiatus in that year was due to some local difficulty. The extra dividends paid in the first two years more than made good the omissions in 1883. It paid six extra monthly dividends in 1877 and nine in 1878. The dividends for the last ten months in 1877 amounted to $850,000 and for the following year they were $1,050,000. That was its dividend record year. From March, 1877, to December, 1889, the mine paid 162 dividends, aggregating $10,650,000, of which $5,125,000 was paid in the first seven years and $5,475,000 in the last six years of the interval.

This closes the writer's personal record of the Ontario's dividends, but it is known that the mine paid dividends at intervals for at least a dozen years longer. In a statement by the writer in January, 1902, the Ontario was credited with having paid up to that time $14,739,000 in dividends, and the Horn Silver, also in Utah, $5,642,000. In connection with this statement it was remarked that these two mines were among the most prosperous strictly silver mines in the country. Utah has opened several other good dividend mines, including Centennial Eureka, which paid $3,600,000; Daly-West, $6,519,000; Con. Mercer, $3,415,300; Silver King, $4,288,000, and Utah Con., $7,500,000.

Idaho mine operators have conducted their business along conservative lines, having been modest in their calls for capital for the development of properties, and not very extravagant in the disbursement of dividends. Yet it has

for many years been able to report one or more dividend-paying mines. In some years the number has run as high as eight or ten. One of the earliest in the writer's record was the Golden Chariot, the wheels of which were first heard in 1869, when dividends were inaugurated amounting to $105,000, followed with $75,000 in the next year, $170,000 in 1871 and $85,000 in 1873, making $435,000 in all. Next came the Ida Elmore in 1869, with four dividends, amounting to $40,000 in the last four months of that year, and two of $20,000 in the first two months of the following year, making $60,000 in all.

Placer mining in Idaho was inaugurated in 1852, and with good results. This was followed by lode mining, which has since been continued without a break. Considering the difficulties under which the work has been prosecuted for the most part during this interval, the returns have been quite encouraging. From 1893 to 1901 the De Lamar mine paid $2,293,200 in dividends; Bunker Hill and Sullivan, $13,911,750. In more recent years the Idaho mines have disbursed from $1,000,000 to $1,500,000 per annum in dividends.

Oregon began mining for the precious metals in 1852, and the industry has been maintained ever since. For the most part the work has been conducted very quietly. The product has been mainly gold, the annual yield of which has varied from $600,000 to $1,800,000, with an average of $1,130,000 for the past thirty years. The yellow metal has come from a dozen or more counties in various parts of the State, and the belief is entertained that the yield will increase as the years go by. The industry is being prosecuted along strictly business lines.

Washington has been content with a much smaller gold yield than Oregon, though the industry has been conducted for the same number of years. For some time the yield

has ranged from $100,000 to $800,000 per annum. Mining has been carried on in several counties of the State, and interested parties are confident that the future will show better results than have been thus far obtained.

Wyoming is not discouraged in its search for the precious metals, though thus far it has little to show for the capital and labor expended. This State originally formed a part of Utah, Idaho and Dakota, all gold metal bearing States, and therefore has some justification for anticipating discoveries in precious metals that have not yet been realized. It only became a State in 1890, and so was late in taking up the search for gold.

Colorado has shown phenomenal vigor in its mining activities, though a little late in their inauguration. It is true, some work was done on a small scale in 1859, two years before it became a Territory, and seventeen years before it was admitted as a State. From 1859 to 1870 its friends claim a gold product of $27,313,000 and a silver product of $330,000. It was subsequent to the latter year that it began to attract general attention, first as a liberal producer of silver, and it was twenty years later before it made much of a show as a gold producer. It was the Leadville silver mines that first gave it any general publicity. These mines were developed rapidly and on a liberal scale, and about the time the yield of the white metal had reached its climax, the yield of its gold mines, which had been opened at a later period than the Leadville silver discovery, began to show large and steadily increasing yields of the yellow metal. This continued for several years, and in 1897 it surpassed for the first time California, which had hitherto held that lead. Colorado is still a liberal producer of gold, but in 1911 California again took first place by a small margin. Colorado has also made great strides in the production of copper. In

1900, according to the Mining and Engineering Journal, sixty Colorado mining companies of all sorts paid $7,959,000 in dividends, while in the very next year forty of these corporations paid $7,836,000.

Montana was still later in opening its gold and silver mining industry. It did not obtain territorial recognition until 1864, and after serving in that capacity for a quarter of a century it was admitted as a State. There were no annual compilations of its product of gold and silver until 1882, but according to a published estimate, its yield of gold from 1862 to 1881 was $200,000,000 and its yield of silver $11,000,000. It has never been very prominent as a producer of gold, though its annual yield since 1881 has varied from about $2,000,000 to over $5,000,000. It has been a large producer of silver from the start, and in some years, in connection with Colorado, the two States have produced over 60 per cent of the American silver product. Montana has been still more noteworthy as the producer of copper, finally wresting first place even from Michigan, which first developed that industry in the forties. The copper product of Montana has carried a good percentage of silver, as has been the case with the copper mines in Colorado, Arizona and other copper producing sections in these western States. The mining of these three metals in Montana has been quite profitable, as judged by the dividends paid by the corporations so engaged. In 1900 ten of these Montana companies paid $13,754,600 in these dividends.

Arizona became a Territory in 1863 and a State in 1912. Mining operations were conducted in a limited way previous to 1863. It was placer mining at first, with fairly good results in gold. In the subsequent development of quartz mining, silver was so much more prominent than gold that Arizona was classed as a silver proposition. Some

years later, gold took the lead, and the Territory made quite a fine exhibit in the production of the yellow metal. Both metals are still produced in good quantity. Still later, copper was encountered in good paying quantity and quality, and in some cases these disclosures were in mines that had been previously worked for the more precious metals. It was not long before the value of the copper product was greater than the combined value of the gold and silver product of the Territory. These discoveries soon attracted the attention of Eastern capitalists, especially those interested in the Michigan copper mines, and as a result several of these copper claims were taken up by Eastern people. In 1896 Arizona produced 30 per cent of the American copper product. From 1877 to 1895 the value of the gold, silver and copper product of Arizona was $113,739,000, and the subsequent yield has been proportionately much larger. Between 1878 and 1888 the Silver King mine of Arizona paid $1,850,000 in dividends, and between 1880 and 1883 the mine worked by the Western and afterwards the Contention Consolidated paid $2,462,500 in dividends.

New Mexico was originally formed out of Texas and Mexico in the respective proportions of two-thirds of the former and one-third of the latter, and became a Territory of the United States in 1850. It was reduced to its present limits in 1866, and became a State in 1912. It is understood to have large and varied mineral resources. The development of these resources has been somewhat slow compared with other mineral sections of the western end of the country. But faith in the existence of the resources shows no abatement. As between gold and silver, the latter has taken the lead so far. The copper product has also made a fair show. Now that it has assumed Statehood, New Mexico, to meet its new responsibilities,

will doubtless become busy in unearthing its hidden resources on a more liberal scale than has hitherto prevailed.

Texas was formerly a part of Mexico, but seceded, became a republic, and was annexed as a State by the United States in 1845, and has a larger area than any other State in the country. It has good mineral resources, including gold, silver, lead and copper. Its yield of gold to date has been quite limited. The United States Mint reports make no record of the product of gold in Texas prior to 1896, nor of silver prior to 1889. What the future will show with respect to the product of these metals in that State time alone will determine.

South Dakota became a State in 1889, when the Dakota Territory was divided in two States as North and South Dakota. The Black Hills region in South Dakota has shown wonderful resources of gold and other mineral products. It has the credit of the first production of metallic tin in America. Its gold product from the start has been large and regular. California capital had much to do in opening up these gold deposits. The Homestake Mining Company, which took the lead in these developments, is a California corporation. The property is at Lead City, three miles from Deadwood. It was originally purchased by George Hearst of San Francisco in 1875, for $100,000. The property was incorporated in 1877 in 100,000 shares, rated at $2 per share. Additional land was subsequently secured at various times, and improvements of high order and great capacity installed. Two assessments, amounting to $200,000 were paid, the last in 1878. The first dividend was paid in January, 1879, at the rate of 30 cents per share, or $30,000. There have been few interruptions to these dividends from that year to the present. Most of the ore is low grade, say from $5 to $8 per ton, but so far the deposit has not been exhausted.

It has proven to be the most extensive deposit of ore yet found on the American continent. In 1886, it was predicted that there was enough ore then in sight to last thirty years. This prediction has been verified. The management of the mine has been eminently successful.

From 1879 to 1889, both years inclusive, the Homestake mine paid dividends to the amount of $4,455,750, equal to over $400,000 per annum. For the next ten years it did even better than that, the total for that interval being $4,700,000, or an average of $470,000 per annum. From 1900 to 1912, both years inclusive, further dividends were paid with great regularity and in much larger amounts. In the absence of official returns for some of the years in that interval, the total is estimated to have been $19,693,-890. Accepting this amount for that interval to be approximately correct, the total dividends paid by the mine to the close of 1912 would be $28,849,640.

Since 1906, if not before, the mine has been paying dividends on 218,400 shares, and for a portion of that time at least at the rate of 50 cents per share. The dividends for January and February, 1913, were 65 cents per share.

On February 20, 1913, the stockholders, at a special meeting, authorized an increase of 15 per cent in the capital stock. This increase of stock is in the nature of a stock dividend to the stockholders.

The company recently made a cash donation of $159,000 to its employes.

From 1880 to 1897 the Deadwood Terra mine in the same district paid dividends of $1,455,000. From 1880 to 1883 the Father de Smet paid $1,125,000. From 1895 to 1899 the Highland paid $670,000. From 1897 to 1900 the Holy Terror paid $167,000. Other dividend mines in the same camp embrace the Caledonia, Golden Terra, Golden Reward, Lawrence and Wasp.

Alaska was purchased by the United States from Russia in 1867 for $7,200,000. The Russians knew but little about the Territory, or they would not have sold it for that amount. In 1855, Darrehan, a member of an engineer corps, was sent out from St. Petersburg to explore the territory. He and his comrades spent over two years on that errand, and, though they discovered indications of gold and copper, he made a report condemning the country.

Some years later, another Russian engineer, in surveying the shores of Silver Bay, near Sitka, found some float gold, but not enough to justify operations. The purchase of Alaska included numerous islands along the coast, some of them of considerable area, and a large section of the mainland adjoining British Columbia on the north.

It was known long before this purchase was made that a mineral belt of much value had been traced northward from Mexico through California, Nevada, Oregon, Washington and British Columbia to the very confines of Alaska, and that the same or a similar deposit had been worked in Siberia, on the other side of Alaska, Professor William Blake visited the Stickeen River in 1862, and Professor John Muir, then State Geologist of California, spent the years 1879 and 1880 in studying the glacial districts of Alaska from the southern boundary to the Arctic Ocean. Mr. Muir is reported to have found signs of gold in every stream in the territory, and was certain that Alaska would eventually prove to be one of the rich gold fields of North America.

These reports at once attracted additional searchers for gold to the territory. Placer mines were worked on the Stickeen River as early as 1862. In the following year the yield was from $3 to $10 per day per man. In 1871 gold was found and worked at Sitka. A Nevada miner named Haley is said to have fired the first blast at that point,

and secured $80 in free gold. Other ledges were found in the same vicinity, one of which was bought by a San Francisco firm and incorporated as the Baranoff Island Gold and Silver Mining Company, with a capital of $1,000,000. This claim was previously known as the Stewart. Placer mining began at Sum Dum Bay, an indentation of the mainland on Stephenson Straits, a hundred miles south of Juneau, in 1876.

The Paris mine on Douglas Island was located in 1881, but was discovered a year previously. The discovery embraced both placers and quartz lodes. The island is eighteen miles long and seven miles wide, and directly opposite Juneau. The mine was originally owned by John Treadwell, and it has been worked almost uninterruptedly since 1882. It was first incorporated as the Alaska Mill and Mining Company, and paid its first dividend of $25,000 in August, 1885, at the rate of 25 cents per share on 100,000 shares. Two more dividends of the same amount were paid in the same year, three of the same amount in 1886, five in 1887, three in 1888, and twelve in 1889. These twenty-six dividends of $25,000 made a total of $650,000.

In 1890 the company was reincorporated under the name of the Alaska Treadwell Mining Company. The first mill set up to test the ores carried only five stamps. Later the company had 240 stamps in operation, which at that time was said to be the largest quartz mill under the same roof in the world.

The ore has been of low grade from the start, but is abundant, and it has been economically mined and milled. The mine was opened as a drift mine, the ore being quarried from the side of the hill and transported by rail to the mill. The property has for some time been worked through shafts.

The gold product of the mine under the first-named

corporation from 1882 to 1890 was $2,339,399, and it was from that product that the $650,000 in dividends was paid.

The total bullion product of the mine under both corporations to the close of 1912 was $31,583,307, and the total dividends were $12,775,000.

The Alaskan-Mexican mine, adjoining the Alaska-Treadwell, and owned and operated by the same parties, produced $9,942,368 in bullion to the close of 1912 and paid $2,093,381 in dividends. The Alaskan-Mexican began paying dividends in 1894.

The Alaska-United, in the same group and under the same ownership, produced $3,591,775 in bullion to the close of 1912, and paid $1,062,290 in dividends. This property was of later development than the other two.

Considering the low grade of ore in these properties, the above results from these Douglas Island mines is remarkable. All are well equipped with the best of hoisting and milling plants, and are well managed.

In 1897 mining in Alaska took on new and more extensive proportions, because of some recent discoveries of much value in other sections of the Territory. At first these renewed operations were confined to the placers, and later on were extended to quartz mining.

In the report on the Production of Precious Metals in the United States for 1905, the Hon. Frank A. Leach, then as now Superintendent of the United States Mint in San Francisco, furnished a carefully prepared statement of the sources of the gold product of Alaska for each year from 1897 to 1905, the grand total of which was $67,943,700. At the same time Mr. Leach also furnished a statement of the gold product of the Klondike, British territory adjoining Alaska, for the same interval, the total of which was $116,-519,400.

It was the finding and the working of the gold deposits

in the American territory of Alaska that led to this large product of gold in the British territory of the Klondike in those nine years.

This wonderful gold product of that section since 1880 is largely due to California capital and enterprise, and the same kind of capital and enterprise has had much to do with the yield of gold in this entire western end of the country.

The metal and other products of Alaska, including the furs and fisheries, have been estimated at $446,641,000, while the disbursements have been placed at $35,816,700, showing a net profit of $410,824,700.

Good Dividend Mines in California.

In this review of gold and silver mining in these Western States and Territories of the country no attempt has been made to give a complete record of all the dividends paid by all the mines that have distributed their profits in that way, or by private apportionment, because there is no available data for a statement of that kind. The illustrations given are correct for the periods named. In some cases these records do not pretend to go back to the inauguration of such disbursements, nor of extending them down to date.

It is to be regretted that a complete account of the profits of the gold and silver mines of the country cannot be given, not even from a single one of the most prominent States engaged in the industry. California alone has worked many profitable enterprises of this sort, but in many cases the net earnings have been privately allotted to the owners. It is known that the North Bloomfield and Milton Gravel Mining Companies produced $4,420,000 in gold bullion by the hydraulic process between 1878 and 1882, on which the profits were $2,333,600. But just as

this form of mining began to show good results, the operators were enjoined from working their properties unless they agreed to impound the debris. This injunction greatly reduced that way of securing gold in California from that time to the present, as the expense for impounding debris was too great to be borne.

The North Bloomfield and Milton Gravel Mining Companies were enjoined from doing any work for four months in 1881, but were operated as usual in 1882. Soon afterwards they ceased operations, the injunction having been made permanent. The North Bloomfield paid its last dividend of $45,000 in November, 1880. The payment of this dividend made a total of $5,062,500 returned to stockholders in that form. Up to the same date the Milton Gravel paid $561,284.

Prior to making this injunction permanent the gravel mines of California under the hydraulic system were yielding $5,000,000 to $8,000,000 in their best years. The injunction operated only against such companies as would not or could not keep their debris or tailings from passing into navigable streams. Hydraulic mining is still carried on in California, yielding of late years over $1,000,000 per annum.

On account of its prominence as a bullion producer, Nevada County has shown up well in the disbursement of mining profits. The gross amount of these dividends, if it could be given, would be a revelation to many. The writer has a partial record of a few of these mines. This record of the Eureka mine from 1867 to 1878, both years, shows a total of $1,999,000. From the start these dividends were paid with great regularity, and did much to encourage operations in other mines in the same county. Robert Watt, afterwards banker, bank commissioner, and wholesale merchant, was a director in the Eureka mine.

Probably the best gold producer in Nevada County, if not the best in the State of California, was the Idaho mine, which joined the Eureka. For the number of years it was in operation and the profits it returned to the owners, the Idaho is certainly entitled to that rank. In view of what it has produced and its proximity to the Eureka mine, it is remarkable that its importance was overlooked by the Eureka owners, when it could have been purchased at a very low figure, and thus added so much to the life of the Eureka.

The Idaho mine had a good quantity of gold quartz near the surface, but this was soon exhausted. Further operations for some time were discouraging and unprofitable, and at last became so unbearable that the owners gladly accepted the proposition of Edward and John C. Coleman to take hold of the enterprise for further development. It was not long after this new arrangement had been effected that a new and important ledge was opened that furnished a good supply of gold for many years.

On the incline these operations extended to a depth of 2,500 feet, running close up to the line of the Maryland. At this juncture the mine was sold to the Maryland Mining Company for $80,000, which was supposed to be about the net value of the ore yet remaining in the Idaho mine.

In round numbers, the Idaho mine produced $11,500,000 in gold and paid dividends of $4,500,000. The original capital was $39,000, invested in a fifteen-stamp quartz mill and an up-to-date hoisting works.

At least a dozen other mines in the same county have disbursed from $100,000 to over $1,000,000. These are all quartz mines.

Amador County has furnished several good dividend paying mines. From 1867 to 1888, inclusive, the Amador mine under its two names paid $1,027,450 in dividends.

From 1883 to 1888, inclusive, the Plymouth Con. paid $2,285,000. From 1894 to 1901, inclusive, the Kennedy mine is estimated to have paid $1,825,000 in dividends.

Calaveras County has developed some good paying mines, but the owners never gave much publicity to the profits received. The Utica mine in that county was a large producer of gold in its best years.

Mono County astonished the public in 1878. No one had expected that much bullion would ever be developed there, so when the announcement of a gold discovery was wired it was a pleasant surprise. In August of that year the first dividend of $50,000 was paid. This was at the rate of $1 per share. Before this dividend was paid a second one of $2 per share was announced, and this was followed before the end of the month with one of $5 per share, so that, instead of $50,000 for August, 1878, the amount was $400,000. Of course, the Street went wild over such munificence. The Bodie paid $750,000 in 1878, and from 1878 to 1886, inclusive, the total was $1,502,700. Since then other dividends have been paid by the same mine. The Bulwer mine in the same county paid $175,000 between 1881 and 1884.

Mono County had still another surprise for the public in the development of the Standard Con. mine. The first dividend by the Standard was paid in September, 1877, at the rate of $1 per share, or $50,000. From 1877 to 1889, inclusive, these dividends amounted to $4,695,000. Since then other dividends have been paid, making a total of $5,229,800 to date.

Other California mines that paid dividends from 1894 to 1910, inclusive, were as follows: Argonaut, $1,200,000 in 1898 to 1910; Champion, $150,000; Gwin, $277,000; Morning Star, $474,000; Mead, $160,000; Modoc, $275,000, and Yellow Aster, $392,000. The dividends by the Gwin,

Mead, Modoc and Yellow Aster were all paid in the last four years of that interval. The Champion and Morning Star mines paid some dividends previous to 1894. It is possible that some of the mines mentioned have also paid dividends since 1901. The Yellow Aster paid $120,000 in 1912, making a total in seventeen years of $1,111,879.

The writer has a partial record of the dividends by several other California mines in the early years of corporate enterprise, as well as in some of the years of the last decade of the last century. In that decade the number of California mines paying dividends varied from fifteen to twenty-five. These figures are exclusive of the dividends of the quicksilver and copper mines of the State. The dividends of the gold and silver mines of California from 1894 to 1901, inclusive, exceed $6,000,000.

Dredge Mining in California.

For many years mining operations have been carried on in over thirty-five counties in California. In many of these counties the gold and silver product has been quite small. Over two-thirds of the yield has been credited to less than a dozen counties, most of which cover the mother lode, which runs from south to north through the State. Indeed, that is the general trend of the precious metals belt from South America to the northern boundary of Alaska and even beyond into the Yukon Territory under the control of Great Britain.

The principal producing counties in California of late years have been Nevada, Amador, Butte, Calaveras, Kern, Tuolumne, Shasta, Siskiyou, Placer and Trinity. As to quartz mining, Nevada County has held the lead for many years, and still holds that record, though in 1910 Amador was slightly ahead. Trinity County led in hydraulic mining in 1910, Placer County in drift and Yuba County in

dredge mining. Previous to that year, Butte County held first place in dredge mining.

This last named form of mining is the latest introduced into the California system, and is said to have been borrowed from New Zealand. It is true experiments in that form of mining were on trial over forty years ago in some parts of the State, but the results were too meagre to attract any attention until 1898, and even then the amount was too small to receive classification in the official reports.

In 1900 the amount credited to dredge mining in California was $200,000. Two years later it was $800,000. In 1894, the amount was over $2,000,000, when there were forty machines in operation. In 1906 the total was over $5,000,000. Since that year there have been further additions from year to year, though the annual gains have been much smaller. The total amount of gold produced by the California dredgers to close of 1911, according to Charles G. Yale, is $47,985,200.

The principal deposits worked by the dredgers in California are along the banks of the American, Feather and Yuba Rivers, in Sacramento, Butte and Yuba Counties. Oroville, in Butte County, was the first section to show up good results in this form of mining, and Butte County immediately took the lead and held it until two years ago, when Yuba County showed the largest product.

These deposits are so far below the surface that they can be mined in no other way. These machines go down 60 feet and some have been built to operate at a depth as low as 75 feet from the source. Good orchard and vineyard land has been turned over to the dredgers for a consideration. The area available for gold mining by dredgers was estimated a few years ago at 50,000 acres, which were thought to contain from $200,000,000 to $300,000,000 in gold. In 1902 placer mining in its various forms

contributed 24 per cent of the total product of gold and silver in California, while in 1911, the proportion was 45 per cent, the increase being largely due to dredge mining.

As California was the first section in the United States to produce gold in any considerable quantity, an exhibit showing its annual yield from 1848 to 1912, both years inclusive, as compared with the combined product of all other sections of the country, will bring out the importance of the discovery of gold in that State in January, 1848, as mere words cannot describe. This is done in the accompanying tabular statement.

In the first twelve years after that discovery California practically had full control of the gold mining industry in the western end of the country. Its only competitors in that field, so far as the Government reports show, were Virginia, North and South Carolina, Georgia, Alabama and Tennessee. The combined product of these six States for those twelve years is separately shown in the tables. In the subsequent years down to 1912 the gold product of these Eastern States is included with the product of all the Western States and Territories, exclusive of California, which is given separately.

The liberal supply of gold in California led to the agitation of a Mint for coining the same. Congress soon responded to the demand, and the Mint was opened for coinage in April, 1854. It is deemed appropriate in this connection to show the annual operations of this institution in the coinage of gold and silver. The annexed table covers the American gold product and the coinage of the United States Mint in San Francisco, as follows:

GOLD PRODUCT AND COINAGE

(In One Thousand Dollar Amounts)

American Gold Product				Coinage U. S. Mint, San Francisco		
Years	California	Other States	Total	Gold	Silver	Total
1848	$10,000	$ 851	$10,851	.....	.....	.....
1849	40,000	892	40,892	.....	.....	.....
1850	50,000	657	50,657	.....	.....	.....
1851	55,000	601	55,601	.....	.....	.....
1852	60,000	711	60,711	.....	.....	.....
1853	65,000	486	65,486	.....	.....	.....
1854	60,000	323	60,323	$ 4,084	.....	$ 4,084
1855	55,000	362	55,362	18,008	$ 164	18,172
1856	55,000	326	55,326	25,306	184	25,490
1857	55,000	142	55,142	20,327	100	20,427
1858	50,000	349	50,349	17,158	274	17,432
1859	50,000	356	50,356	12,918	329	13,247
1860	45,000	1,000	46,000	11,178	264	11,442
1861	40,000	3,000	43,000	15,665	511	16,176
1862	34,700	4,500	39,200	17,276	711	17,987
1863	30,000	10,000	40,000	19,543	479	20,022
1864	26,600	19,500	46,100	15,918	362	16,280
1865	28,500	24,725	53,225	21,214	371	21,585
1866	25,500	28,000	53,500	17,362	554	17,916
1867	25,000	26,725	51,725	18,720	630	19,350
1868	22,000	26,000	48,000	17,230	644	17,874
1869	22,500	27,000	49,500	14,028	404	14,432
1870	25,000	25,000	50,000	19,848	507	20,355
1871	20,000	23,500	43,500	18,905	1,137	20,042
1872	19,000	17,000	36,000	16,000	381	16,381
1873	17,000	19,000	36,000	21,154	921	22,075
1874	17,500	16,000	33,500	24,460	2,868	27,328
1875	17,617	15,783	33,400	24,674	7,395	32,069
1876	17,000	22,900	39,900	32,022	10,682	42,704
1877	15,000	31,900	46,900	35,092	14,680	49,772
1878	15,300	35,900	51,200	36,209	13,977	50,186
1879	16,000	22,900	38,900	28,956	9,110	38,065
1880	17,500	18,500	36,000	28,527	8,900	37,427
1881	18,200	16,500	34,700	29,085	12,760	41,845
1882	16,300	16,200	32,500	28,665	9,250	37,915
1883	14,120	15,880	30,000	24,576	6,250	30,826
1884	13,600	17,200	30,800	20,447	3,257	23,704
1885	12,700	19,100	31,800	22,007	1,501	23,508
1886	14,725	20,275	35,000	24,600	771	25,371

GOLD PRODUCT AND COINAGE—(Continued)

(In One Thousand Dollar Amounts)

	American Gold Product			Coinage U. S. Mint, San Francisco		
Years	California	Other States	Total	Gold	Silver	Total
1887	$13,400	$19,600	$33,000	$23,390	$2,216	$25,606
1888	12,750	20,425	33,175	25,148	1,133	26,281
1889	13,000	19,800	32,800	19,748	797	20,545
1890	12,500	20,345	32,845	16,055	8,373	24,428
1891	12,600	20,575	33,175	25,762	6,170	31,932
1892	12,000	21,000	33,000	21,250	2,055	23,305
1893	12,680	23,275	35,955	22,457	1,083	23,540
1894	13,570	25,930	39,500	21,500	3,947	25,447
1895	14,929	31,681	46,610	23,920	1,507	25,427
1896	15,236	37,852	53,088	30,093	5,675	35,768
1897	14,618	42,745	57,363	33,522	6,562	44,084
1898	15,638	48,825	64,463	63,226	5,707	68,933
1899	15,198	55,855	71,053	56,341	3,769	60,110
1900	15,816	63,355	79,171	51,645	5,802	57,447
1901	16,891	61,776	78,667	78,287	2,785	81,072
1902	16,792	63,208	80,000	44,463	2,848	47,311
1903	16,104	57,488	73,592	33,735	2,522	36,257
1904	18,995	61,470	80,465	103,168	2,661	105,829
1905	19,197	68,984	88,181	44,356	2,404	46,760
1906	18,833	75,541	94,374	48,875	1,184	50,059
1907	16,854	73,582	90,436	45,421	1,283	46,704
1908	19,330	75,230	94,560	1,448	1,340	2,788
1909	20,704	78,969	99,673	59,908	1,319	61,227
1910	20,441	75,828	96,269	54,526	1,098	55,624
1911	20,311	75,923	96,234	23,105	1,235	24,340
1912	19,988	71,297	91,285	4,960	1,104	6,064
Total . . .	$1,609,737	$1,820,603	$3,430,340	$1,677,477	$186,901	$1,864,378

It will be noticed that the gold product of California from 1848 to 1912, both years inclusive, was nearly as large as the combined gold product of all other sections of the country for the same period.

It will be further noticed that the gold coinage of the United States Mint in San Francisco to the close of 1912 was larger than the entire gold product of California.

It is not generally known, but it is nevertheless true,

that the United States Mint in San Francisco, poorly equipped as it was prior to the occupation of the present quarters on Fifth and Mission streets, in 1875, has coined more than one-half of all the gold coined in the United States from the establishment of the first Mint at Philadelphia in 1793 down to 1910.

The gold coinage of all the Government Mints in the United States to the close of 1910 was $3,215,337,588, of which sum the United States Mint in San Francisco coined $1,649,412,407.

In one thousand dollar amounts, the descriptions embraced in these totals were as follows:

	San Francisco	All U. S. Mints
Double Eagles	$1,386,416	$2,313,590
Eagles	135,134	486,205
Half Eagles	125,725	357,954
Three Dollars	186	1,619
Quarter Eagles	1,861	36,160
Dollars	90	19,809
Total	$1,649,412	$3,215,337

Holding such a position in the Mint system of the country, it is difficult to realize any good reason, or any kind of a reason, for the recent attempt to eliminate the coinage authority of the United States Mint in this city. It is no wonder that this attempt was strongly opposed and bitterly denounced by the friends of this institution. Its coinage record is without a peer in this or any other country. In 1904 this Mint coined $103,168,500 in gold. With one exception, which occurred the same year, this is the largest amount coined in any one year. The Philadelphia Mint coined $129,144,400 in the same year. The total gold coinage for that year was $233,402,400. There was an exceptional reason for the heavy coinage that year. The coinage of the double eagle and the gold dollar was a concession to the discovery of gold in California in 1848.

Both of these coins were authorized by an Act of Congress on March 3, 1849. The coinage of the gold dollars was authorized to be discontinued in September, 1890. As souvenirs of the most important gold discovery yet made in the United States, these coins will be treasured by their possessors.

The United States Mint in San Francisco has been a most valuable asset to the Pacific Coast, apart from the benefit it has been to the gold bullion producers. Its presence and the supply of the raw material California was able to furnish it did much to bring the country to sound money conditions in later years.

States Credited for Precious Metals.

It is to be regretted that the officials did not take as much pains in compiling the gold and silver product of the other Pacific States and Territories as it did in the case of California. A reason for this in the early years was the apprehension, no doubt, that the discovery of these deposits might not amount to much, and therefore it was not worth while to collate the facts in the case. This was the view some people took of mining in California, but the sudden expansion of the product forced the recognition of its importance almost from the start.

It was in 1883 that Congress called the attention of the Mint authorities to the desirability of classifying by States and Territories the sources of the gold and silver product of the country. There was a prompt reply to this request, but the publication of such statistics was not retroactive, further than to make a beginning with the year 1881. Since then the publication of such statistics has been made.

Previous to 1881, the Mint authorities had a general record of the precious metals produced in the United States from the first domestic gold received at the Mint

in 1804. This lot of bullion came from North Carolina, and the estimate from that source for the first twenty years was $47,000. In 1829 Virginia and South Carolina became producers of the metal on a small scale. Georgia became a producer in the following year and Alabama and Tennessee made a beginning in 1831.

From 1804 to 1847, both years inclusive, the gold mines in these six Southern States are credited with a combined product of $12,784,000. Since 1848 the gold product from these Eastern States has been combined with that from other States, as noted in the tabular statement already given on another page.

Through the courtesy of Hon. George E. Roberts, Director of the Mint, the writer has been furnished with a detailed statement of the gold product of the mines in the Southern States to the close of 1879. This shows a grand total of $21,586,500. The principal contributors to this total were North Carolina and Georgia, the former being credited with $10,528,500 and the latter with $7,425,200. Virginia and South Carolina contributed over $3,000,000 of the remainder, which was about equally divided between them. As already remarked, the bullion produced by these Southern States since 1848 is included in the total under the head of other States.

It is in order at this point to give the gold and silver product of the United States from 1881 to 1912, both years inclusive, by States and Territories. This is as far back as a statement of this kind can be carried with any assurance of approximate accuracy. The product of the Southern States in this statement is included in that of other States not specifically mentioned. The information has been compiled from the reports of the Director of the Mint, and is as follows:

PRECIOUS METAL STATES

(In One Thousand Dollar Amounts)

Calendar Years	Alaska		Arizona		California	
	Gold	Silver	Gold	Silver	Gold	Silver
1881	$ 15	.....	$1,060	$7,300	$18,200	$ 750
1882	150	.....	1,065	7,500	16,800	845
1883	300	.....	950	5,200	14,120	1,460
1884	200	.....	930	4,500	13,600	3,000
1885	300	$ 2	880	3,800	12,700	2,500
1886	446	2	1,110	3,400	14,725	1,400
1887	675	.....	830	3,800	13,400	1,500
1888	850	3	871	3,000	12,750	1,400
1889	900	10	900	1,939	13,000	1,034
1890	762	10	1,000	1,293	12,500	1,164
1891	900	10	975	1,914	12,600	970
1892	1,000	10	1,070	1,502	12,000	507
1893	1,010	12	1,184	3,795	12,680	608
1894	1,114	29	1,784	1,483	13,570	928
1895	1,615	87	1,965	1,276	14,929	845
1896	2,056	188	2,604	2,473	15,236	777
1897	1,778	150	2,896	2,896	14,618	613
1898	2,525	119	2,465	2,905	15,638	830
1899	5,459	181	2,566	2,041	15,198	1,066
1900	8,171	95	4,193	3,873	15,816	1,217
1901	6,886	29	4,083	1,687	16,891	555
1902	8,346	49	4,112	1,613	16,792	477
1903	8,615	78	4,358	1,829	16,104	503
1904	9,160	115	3,344	1,592	18,995	836
1905	14,926	103	2,691	1,589	19,197	660
1906	21,365	138	2,747	2,010	18,833	1,027
1907	18,489	118	2,664	1,916	16,853	1,049
1908	19,859	109	2,500	1,551	19,330	911
1909	20,340	103	2,627	1,312	20,703	1,199
1910	16,272	83	3,413	1,434	20,441	967
1911	16,003	152	2,955	877	20,311	1,500
1912	17,399	314	3,303	2,104	19,988	765
Total . . .	$207,886	$2,299	$70,095	$85,404	$508,518	$33,863

PRECIOUS METAL STATES

(In One Thousand Dollar Amounts)

Calendar Year	Colorado		Idaho		Montana	
	Gold	Silver	Gold	Silver	Gold	Silver
1881	$ 2,800	$17,160	$1,700	$1,300	$2,330	$2,630
1882	3,360	16,500	1,500	2,000	2,550	4,370
1883	4,100	17,370	1,400	2,100	1,800	6,000
1884	4,250	16,000	1,250	2,720	2,170	7,000
1885	4,200	15,800	1,800	3,500	3,300	10,060
1886	4,450	16,000	1,800	3,600	4,425	12,400
1887	4,000	15,000	1,900	3,000	5,230	15,500
1888	3,758	19,000	2,409	3,000	4,200	17,000
1889	3,500	20,687	2,000	4,396	3,500	19,304
1890	4,150	24,307	1,850	4,784	3,300	20,364
1891	4,600	27,358	1,680	5,217	2,890	21,139
1892	5,300	34,434	1,721	4,475	2,891	24,616
1893	7,527	33,407	1,646	5,056	3,076	21,858
1894	9,492	30,101	2,081	4,252	3,651	16,576
1895	13,305	30,253	1,780	4,022	4,101	22,716
1896	14,911	29,185	2,155	6,659	4,325	21,640
1897	19,104	27,974	1,702	6,337	4,373	20,258
1898	23,195	29,499	1,717	6,560	5,127	19,145
1899	25,983	29,302	1,889	4,980	4,760	20,811
1900	28,829	26,484	1,725	8,312	4,698	18,354
1901	27,693	11,603	1,869	3,327	4,744	7,457
1902	28,469	8,308	1,475	3,103	4,374	7,019
1903	22,540	7,015	1,570	3,514	4,412	6,827
1904	24,396	8,312	1,504	4,530	5,098	8,473
1905	25,701	7,895	1,076	4,957	4,889	8,207
1906	22,934	8,426	1,036	5,981	4,522	8,488
1907	20,898	7,587	1,255	5,206	3,473	7,346
1908	22,871	5,429	1,443	4,043	3,160	5,540
1909	21,846	4,600	1,344	3,513	3,750	6,258
1910	20,527	4,602	1,036	3,794	3,720	6,633
1911	19,154	4,142	1,169	4,129	3,170	6,114
1912	18,792	5,080	1,304	4,686	3,235	7,506
Total . . .	$466,635	$558,819	$51,786	$137,052	$121,244	$407,608

PRECIOUS METAL STATES

(In One Thousand Dollar Amounts)

Calendar Years	Nevada		New Mexico		Oregon	
	Gold	Silver	Gold	Silver	Gold	Silver
1881	$2,250	$7,060	$ 185	$ 275	$1,100	$ 50
1882	2,000	6,750	150	1,800	830	35
1883	2,520	5,430	280	2,845	660	20
1884	3,000	5,600	300	3,000	660	20
1885	3,100	6,000	800	3,000	800	10
1886	3,000	5,000	400	2,300	990	5
1887	2,500	4,900	500	2,300	800	10
1888	3,525	7,000	602	1,200	825	15
1889	3,000	6,206	1,000	1,461	1,100	39
1890	2,800	5,754	850	1,681	1,100	97
1891	2,050	4,551	905	1,713	1,640	297
1892	1,571	3,173	950	1,521	1,400	70
1893	958	2,018	913	593	1,645	15
1894	1,138	1,358	568	817	1,422	34
1895	1,552	1,236	492	898	888	66
1896	2,468	1,356	476	889	1,251	79
1897	2,976	1,589	356	698	1,353	89
1898	2,994	1,041	539	550	1,178	168
1899	2,219	1,090	584	651	1,429	174
1900	2,006	1,757	832	562	1,695	149
1901	2,964	1,088	688	338	1,818	96
1902	2,895	1,986	531	242	1,817	49
1903	3,388	2,727	245	98	1,290	64
1904	4,308	1,563	382	124	1,310	77
1905	5,359	3,577	266	217	1,245	54
1906	9,279	3,525	266	307	1,320	61
1907	15,411	5,465	530	396	1,222	64
1908	11,689	5,086	306	214	906	30
1909	16,386	5,262	253	169	829	36
1910	18,874	6,678	477	421	681	24
1911	18,969	5,858	640	628	599	38
1912	13,332	7,933	605	761	631	48
Total. . .	$170,981	$129,597	$16,671	$32,669	$36,434	$2,093

PRECIOUS METAL STATES

(In One Thousand Dollar Amounts)

Calendar Years	South Dakota		Texas		Utah	
	Gold	Silver	Gold	Silver	Gold	Silver
1881	$4,500	$ 70	.....	.....	$ 145	$ 6,400
1882	3,300	175	.....	.....	190	6,800
1883	3,200	150	.....	.....	140	5,620
1884	3,300	150	.....	.....	120	6,800
1885	3,200	100	.....	.....	180	6,750
1886	2,700	425	.....	.....	216	6,500
1887	2,400	540	.....	.....	220	7,000
1888	2,600	100	.....	.....	290	7,000
1889	2,900	65	.....	$ 300	500	9,050
1890	3,200	129	.....	387	680	10,343
1891	3,550	129	.....	485	650	11,313
1892	3,700	75	.....	424	660	10,978
1893	3,506	181	.....	451	853	9,304
1894	3,299	76	.....	555	868	7,618
1895	3,869	206	.....	582	1,373	9,656
1896	4,970	297	$ 8	679	1,900	11,414
1897	5,695	191	7	523	1,726	8,101
1898	5,700	191	.....	611	2,285	8,386
1899	6,470	188	7	672	3,451	9,171
1900	6,178	693	1	617	3,972	11,982
1901	6,479	47	1	283	3,690	6,284
1902	6,965	180	.....	237	3,594	5,741
1903	6,827	119	.....	245	3,697	6,046
1904	7,024	108	2	272	4,215	7,241
1905	6,914	109	2	255	5,141	6,295
1906	6,605	105	3	188	5,131	7,790
1907	4,138	70	1	202	5,122	7,529
1908	7,742	105	.....	239	3,947	4,521
1909	6,573	102	.....	212	4,213	5,487
1910	5,380	65	.....	197	4,313	5,641
1911	7,430	113	1	243	4,710	6,974
1912	7,796	122	10	257	4,377	7,783
Total...	$158,110	$5,376	$43	$9,116	$72,559	$247,517

PRECIOUS METAL STATES

(In One Thousand Dollar Amounts)

Calendar Years	Washington		Other States		Yearly Totals	
	Gold	Silver	Gold	Silver	Gold	Silver
1881	$120	.....	$295	$ 5	$34,700	$43,000
1882	120	.....	485	25	32,500	46,000
1883	80	.....	450	5	30,000	46,200
1884	85	$ 1	435	9	30,800	48,800
1885	120	70	421	8	31,800	51,600
1886	147	80	460	209	35,000	51,321
1887	150	100	431	290	33,000	53,940
1888	145	100	342	388	33,175	59,206
1889	163	103	392	175	32,800	64,769
1890	204	90	449	182	32,845	70,485
1891	335	213	400	104	33,175	75,413
1892	374	214	378	102	33,010	82,101
1893	222	197	735	81	35,955	77,576
1894	195	146	318	47	39,500	64,000
1895	351	159	390	50	46,610	72,051
1896	406	355	322	78	53,088	76,069
1897	420	138	359	80	57,363	69,637
1898	766	329	334	44	64,463	70,384
1899	685	331	353	149	71,053	70,807
1900	718	290	336	148	79,171	74,533
1901	581	261	280	73	78,667	33,128
1902	272	328	358	83	80,000	29,415
1903	280	159	267	98	73,592	29,322
1904	328	87	375	125	80,465	33,456
1905	370	73	461	237	88,181	34,222
1906	103	28	239	183	94,373	38,256
1907	262	55	317	298	90,436	37,300
1908	254	46	553	225	94,560	28,051
1909	429	39	379	163	99,673	28,455
1910	806	111	329	206	96,269	30,854
1911	505	78	619	940	96,234	31,788
1912	285	157	228	427	91,285	37,943
Total...	$10,281	$4,338	$12,490	$5,131	$1,903,733	$1,660,882

Complete Returns Difficult.

In examining the reports of product from different sections for the same years, the writer has observed some variance in the totals. It is no easy matter to get the correct output of the mines composing a single camp, much less a State or Territory. In some sections a tax is levied on the bullion produced, and that is always an incentive to understate the amount made public. On the other hand, motives to overstate the output are not lacking. Even the Mint authorities are sometimes deceived. But they have the means of checking up the gold bullion produced to some extent at least in the amounts conveyed into the mints and exported from the country in bullion form. As the figures in the foregoing statements are from the Mint reports, they are probably entitled to as much credence as those compiled by other authorities.

The silver product from the several sections is given at its coining value down to 1900. For the subsequent years it is given at its commercial value, the average price in gold per ounce for the year reported. As the number of ounces of fine silver is given annually, as well as the average annual value of fine silver in gold, it is an easy matter to convert the product for any one year into its coining or market value as may be desired by those interested. The coining value of silver is $1.29.29 per fine ounce.

Total Product of American Gold and Silver.

It was not until 1881 that any attempt was made to distribute the product of the precious metals in the United States among the several States and Territories producing the same. The results of that work are given elsewhere in the five tabular statements. The product of some of the States previous to that year was given in a mixed form of gold and silver. Later investigation has made it possible

to give an approximate division of the metals during that interval. But so far as the writer is aware the sources of the yield for the years prior to 1874 have not been made public.

It is possible that there are sources of information in different localities relating to such product in various sections, but unfortunately it is not available to the general public, and hence of local value only.

As to the gross amount of gold and silver produced in the United States from 1804, when the first gold of American product was sent to the Mint, down to the close of the calendar year of 1912, the reports of Mint officials probably furnish the best information. Even these reports are open to criticism, but until some one can furnish more accurate statistics, the public will have to be satisfied with them.

A compilation of these annual reports of the Mint show a gross gold product of $3,448,820,000 and a gross silver product, based on its coining value, of $2,605,771,000. These totals cover the period of 1804 to 1912, both years inclusive.

With the best information available, the sources of these metals for those one hundred and nine years may be approximately apportioned as follows:

Sources	Gold	Silver	Total
Alaska	$ 207,892,000	$ 3,976,000	$ 211,868,000
Arizona	76,282,000	124,403,000	200,685,000
California	1,609,737,000	61,835,000	1,671,572,000
Colorado	514,065,000	740,576,000	1,254,641,000
Idaho	76,049,000	204,235,000	280,284,000
Montana	171,244,000	527,094,000	698,338,000
Nevada	331,141,000	444,347,000	775,488,000
New Mexico	20,515,000	44,710,000	65,225,000
Oregon	76,434,000	5,027,000	81,461,000
South Dakota	188,110,000	8,118,000	196,228,000
Texas	43,000	12,201,000	12,244,000
Utah	86,439,000	407,075,000	493,514,000
Washington	16,481,000	7,847,000	24,328,000
Other Pacific States	24,183,000	6,401,000	30,584,000
Eastern States	50,205,000	7,926,000	58,131,000
Totals	$3,448,820,000	$2,605,771,000	$6,054,591,000

It is proper to remark that the amount of gold credited to Montana in the above table does not include the $200,000,000 which some parties claimed was produced in that State prior to 1881, while admitting that no statistics of the gold yield from 1862 to 1881 were ever collected.

In the tables of precious metals from 1881 to 1912, as distributed among the various States, silver is given at its coining value to the year 1900, inclusive, and subsequently at its commercial value, or its gold equivalent, in accordance with the rule of the Mint Director. In the summary of the precious metals, as distributed among the States from 1804 to 1912, for the sake of uniformity, silver is given at its coining value of $1.29.29 per fine ounce.

The difference between the coining and market value of the silver product for that entire period is $937,628,000. That is what free silver coinage would have given to producers if they had been allowed to have their silver coined as they did previously to 1873.

It is doubtful if the country would have been any better off if their wishes in this respect had prevailed.

California as a Quicksilver State.

If California has not received much notoriety as a producer of silver, this lack has been more than offset by its world-wide reputation as the producer of quicksilver. Prior to this discovery, the world depended almost entirely on Spain and Austria for its supply of this metal. The most noted quicksilver mines in those countries were the Almaden, in Spain, and the Idria, in Austria.

California was not only the first State to develop a mine of this character, but it is the only State in the country to produce this metal in any considerable quantity, which is only one of the several unique productive features of the State.

The first and most important quicksilver mine of California was very appropriately named the New Almaden. This mine is in Santa Clara County, a short distance from San Jose. It put its first product on the market in 1850, and the total output for that year was 7723 flasks, of which 6467 flasks were exported. This was sold at from $1.10 to $1.50 per pound. A flask of quicksilver contains 76½ pounds of the metal, so that a flask of quicksilver in San Francisco in 1850 was sold at $84.15 to $114.75. The metal rarely sold as high as $1 per pound in the subsequent years. It sold at $1 in 1851 and again in 1859, but it never reached that figure again in the San Francisco market until 1873, when, because of smaller product, there were sales at $1.20, and in the following two years some lots were sold at $1.55, with $1.20 and 65c as extreme minimum rates for the same years.

The most noteworthy single contract for quicksilver made in San Francisco for use in the Nevada mines was in November, 1874, when there was an agreement effected for the delivery of 400 flasks monthly for one year at $1.50 per pound, equivalent to $114.75 per flask.

These high values naturally stimulated the search for deposits of cinnabar in other sections of California, and many of these were subsequently found, both north and south of San Francisco. A compilation of these quicksilver mines in the State, made by J. B. Randol, of the Quicksilver Mining Company of New York, the owners of the New Almaden mine, in Santa Clara County, shows that between 1850 and 1883 over thirty mines had contributed to the product for that interval. Eighteen of these mines were credited with a gross product for that period of 1,415 to 794,000 flasks. Ten others contributed from 55 to 873 flasks, and over 60,000 flasks were from mines the names of which were not given. The total product for that period was 1,357,400 flasks. The New Idria was second in the list, with a yield of 125,500 flasks, and there were seven other mines, with a total product of over 10,000 flasks each. At the head of those in that list was the Redington, with a credit of 96,000 flasks. Next in volume of production were the Sulphur Bank, 73,500 flasks; Guadalupe, 54,700; Western, 48,100; Napa Consolidated, 32,200; Pope Valley, 18,100; and Great Eastern, 10,300 flasks. Since 1883 many of the thirty mines then listed have dropped out of the race, but several new sources have been developed.

When the first search for cinnabar deposits in California was begun is not definitely known. At least, one authority says it was in 1845, or three years previous to the public announcement of the gold discovery. The parties engaged in that particular search found what they were after in the Santa Cruz Mountains, about fifteen miles south of San Jose.

This was not only a good find, but the best of that character yet made in California. The deposit was named New Almaden, and may be justly placed in the same rank as Spain's foremost quicksilver mine of a similar name.

It required some time, money and machinery to place the mine on a productive basis. There was little difficulty in securing capital for that purpose, as soon as the merit of the deposit became known. The discovery was not as important as the one Columbus made in 1492, but nevertheless it was both unique and important, as up to that time the country had been obliged to get supplies of that sort from foreign sources.

For the first decade of active operations, the New Almaden controlled the local market. From 1850 to 1859 its product was 242,944 flasks, each containing 76½ pounds of quicksilver, while the exports for the same interval were 184,448 flasks. During that period prices varied from 60c to $1.50 per pound, but the average was about 75c. At this rate the exports netted $10,513,500. The annual returns from 1850 to 1911 are herewith annexed:

Years	Product	Exports	Value Exports
1860	10,000	9,347	$ 500,064
1861	35,000	35,994	1,511,790
1862	42,000	33,747	1,227,546
1863	40,531	26,015	1,079,622
1864	47,489	36,927	1,694,949
1865	53,000	42,469	1,950,245
1866	46,550	31,287	1,087,703
1867	47,000	28,854	931,308
1868	47,728	43,507	1,330,054
1869	33,811	24,365	747,671
1870	30,077	14,241	489,954
1871	31,686	16,340	898,360
1872	31,621	16,749	1,099,110
1873	27,642	10,557	820,782
1874	27,756	11,750	1,247,554
1875	50,250	37,852	2.237,937
1876	75,074	49,046	1,956,664
1877	79,396	52,624	1,864,408
1878	63,880	39,748	1,387,501
1879	73,684	63,106	1,728,772
1880	59,926	46,329	1,389,141
1881	60,851	45,798	1,346,793
1882	52,732	40,473	1,174,539
1883	46,725	37,887	1,021,811
1884	31,913	20,901	627,030
1885	32,073	21,730	651,900
1886	29,981	12,307	430,535
1887	33,760	24,100	840,000
1888	33,250	22,620	848,250
1889	26,464	18,078	723,920
1890	22,926	5,974	304,866
1891	22,904	14,559	654,979
1892	27,993	33,108	1,489,860
1893	30,164	29,721	1,239,274
1894	30,416	29,060	926,170
1895	36,067	31,131	1,168,389
1896	30,765	27,985	965,778
1897	26,691	23,438	830,830
1898	31,092	6,195	227,450
1899	29,454	10,075	401,104
1900	26,317	7,299	341,548
1901	25,492	4,874	222,345
1902	26,184	9,826	423,830
1903	29,362	16,721	713,279
1904	36,218	22,844	918,649
1905	28,412	15,783	581,602
1906	26,176	14,439	556,411
1907	24,387	11,784	449,731
1908	19,360	13,300	590,750
1909	18,214	10,152	406,000
1910	18,562	10,500	420,000
1911	19,000	8,100	324.000
Total.....	1,888,010	1,271,610	$49,004,758

To this tabular statement should be added the totals of the operations of the industry for the first decade of its existence, say from 1850 to 1859, both years inclusive. The product for that period was 242,994 flasks, all of which, it is presumed, came from the New Almaden mine. The exports for the same interval were 184,457 flasks. Prices for that period were generally much higher than for the subsequent years, the average being about $57 per flask. Applying this average to the quantity exported, the value is $10,514,049. This looks like a large sum for the quantity exported, but the opening of the mine and the high cost for labor and supplies during those years had their effect on the net profits.

Dividing the next fifty-two years of this industry into two equal intervals, the totals are as follows: From 1860 to 1885, both years inclusive, the product was 1,178,399 flasks; exports, 837,643 flasks; value of exports, $32,003,208; while from 1886 to 1911, the product was 709,611 flasks; exports, 433,967 flasks; value of exports, $17,001,550. The grand totals from 1850 to 1911, both years inclusive, show a product of 2,131,004 flasks; exports, 1,456,067 flasks; value of exports, $59,518,807. To this sum should be added $26,997,480 for the product not accounted in the exports, thus raising the value of the total product to $86,516,300.

The large difference between product and exports is due to the failure to obtain full returns from the railways, and to the liberal shipments to Nevada and adjoining States and Territories, of which there are no perfect records obtainable. Product American quicksilver in 1912 was 20,631 flasks, of which 16,500 flasks were credited to California, and remainder to Texas and Nevada. To date, Texas has produced 47,000 flasks, valued at $2,000,000.

The first shipments of quicksilver by the all-rail route were published in 1870. These reports were continued until

1897, when they were suspended. The quicksilver shipments by rail for the intervening years have been added to the shipments by water in the tabular statement. The enforced elimination of the shipments by rail since 1897 accounts for the smaller totals in the subsequent years, when such totals represent only the shipments by the water routes.

Quicksilver shipments by sea from San Francisco began very early, and formed an important part in the value of the early cargoes from the port, when there was but little else than mineral products to make up cargoes. A tabular statement of these shipments from San Francisco from 1860 to 1883, prepared by the writer, has been preserved.

The destinations of these exports for that period were New York and allied ports, Great Britain, China and Hongkong, Japan, Mexico, Chile, Peru, Central America, Australia, Panama, and British Columbia. Shipments were annually made to Great Britain from 1861 to 1868, and also in 1875 and 1876. The total quantity shipped to that country in those ten years was 27,300 flasks, of which 10,400 flasks went out in 1865.

The largest shipments by water from 1860 to 1883 were to China and Hongkong. During that interval these shipments amounted to 341,100 flasks, of which 207,000 flasks were made in the last ten years of that interval, equal to 20,700 flasks per annum. In some of these years the quantity taken for those markets was more than one-half of the annual product. In 1879 these shipments to those markets were 37,000 flasks, the largest on record. In 1884 the buying of quicksilver for the China market was shifted from San Francisco to London, because of the relatively better terms obtainable in the latter market. For that and the following year only 400 flasks were bought in this market for China, and in 1886 not a single flask was obtained.

Near the close of 1887 buying for the Chinese market was again resumed in San Francisco, and, barring a few breaks, it has been continued ever since. The shipments in 1887 were 2,900 flasks.

Japan has been a moderate buyer, taking over 6,000 flasks from 1860 to 1883. In recent years it has done better, taking about 6,000 flasks in 1904 and 1905.

Mexico has been the best regular buyer of California quicksilver, having taken a good quantity annually from the start. From 1860 to 1883 these shipments to Mexico amounted to 205,600 flasks. In nine of these years the annual exports exceeded 10,000 flasks per annum. The largest yearly total was 15,000 flasks in 1881. Mexico continues a good customer.

South America was a good customer for California quicksilver in the earlier years. Between 1860 and 1883, Chile took 19,500 flasks and Peru 44,900 flasks. Australia was also a good customer, taking 20,000 flasks during the same interval. The shipments to New York during the same period were 38,000 flasks.

The export demand from 1870 to 1874 was quite light, amounting in 1873 to only 5,752 flasks by the water routes. That was the smallest total in a quarter of a century. The largest yearly export total in that period was 52,452 flasks in 1879. For the last quarter of a century comparatively little quicksilver has been shipped from San Francisco to either South America or Australia, those countries evidently receiving the bulk of their supplies of this character from Europe. On the other hand, Central America has been a better customer than previously, having taken in the last sixteen years about 15,000 flasks.

From 1871 to 1891 the profits of the New Almaden mine were $5,173,000. From 1850 to 1890 the mine produced 906,000 flasks from 654,000,000 tons of ore roasted,

to secure which 48 miles of drifting and sinking were necessary. The mine is still productive, and has been a good dividend payer.

Other California quicksilver mines have paid dividends as follows: Napa Con., $1,840,000; New Idria, $1,660,000; Redington, $1,032,000. The amounts paid by others are not recalled. The industry has been of much value to the State, and has furnished the world with nearly all the American product.

California Copper Product.

Copper mining in the United States first began to attract attention in 1844 in the Lake Superior district, Michigan, and in the course of a few years developed into a very important industry of much value to the country and of much profit to those who invested in the enterprise. For many years thereafter Michigan was the leading copper State of the country. The copper mines of that State carried small percentages of gold and silver as by-products.

Gold mining in California soon developed silver as a by-product in small quantity. When the miners from California went into Nevada, Utah, Idaho and adjacent territory, silver was the leading metal at first, with gold, copper and lead as by-products.

Copper mining in California did not amount to much prior to 1860. In the early part of the following decade there were considerable shipments of copper ores to domestic Atlantic ports and Europe for the want of proper smelting facilities near the sources of production. During the same decade there were also shipments of silver ores to the Atlantic side for the same reason.

Later, California copper ores were reduced to the forms of copper matte and copper cement, which found ready sale. Still later, modern smelting works were installed,

and the industry from that time on assumed some degree of importance.

In 1900 California was credited with a copper product of nearly 15,000 tons, valued at $4,488,700. In the following year the product was reported at 17,460 tons, valued at $5,501,800. In the next two years there was quite a reduction in the yield, but in 1904 the product was quite as large as in 1900. In 1905 it dropped to 8,500 tons, but in the very next year it was over 14,000 tons, and since then the yield has been steadily increasing with the exception of the last two years. In 1909 the product was nearly 33,000 tons, nearly double that of the previous largest yield, and probably the heaviest ever reported. In 1910 it was about 27,000 tons and in 1911 it was 18,000 tons. It was still larger in 1912.

From 1894 to 1912, both years inclusive, California is estimated to have produced about 290,000 short tons of copper, valued, according to the average yearly market rates, at $87,000,000.

Copper ore smelters in California have met with the same difficulties that have been encountered in other States, incident to the objectionable character of the fumes. Whether these can be fully overcome, or even materially modified in all cases, is still a problem of more or less serious import. It is hoped that this may be possible in all cases everywhere, for the metal has always been essential to material progress, and never so essential as at present.

The Mountain Copper Mining Company in Shasta County, California, paid dividends of $850,000 in 1912.

The American copper industry has had a wonderful history, especially in the last quarter of a century. The entire product of the country in 1849, according to a report of the American Metal Market of New York, was only

700 tons. In 1860 the total was only 7,200 tons and in 1870 it was 12,600 tons. All but 300 tons of that total was credited to the Michigan mines. In 1881 it was nearly 36,000 tons. The Michigan mines furnished 26,500 tons of that total; Arizona, 4,000 tons; Montana, 875 tons, and all other States and Territories, 4,475 tons.

Up to that time, and for several years afterwards, the Lake Superior mines had a good swing of the domestic and foreign markets, and was an important factor in regulating prices in the home fields. In 1882 Arizona was the most formidable rival of Michigan in the copper realm. It did not then appear that Montana would be much of a competitor. But the country was beginning to wake up to the importance of this industry, and an active search for copper deposits soon began. Even in 1870 copper mining was in operation in twenty-one States and Territories, and ore had been found in several others.

In 1886 the product was 72,800 tons, of which the Michigan mines contributed 39,300 tons; Montana, 25,000 tons, and Arizona, 7,100 tons. That was the largest product of the Michigan mines up to that time, but during the previous year Montana produced 30,300 tons, and in 1884 Arizona yielded about 12,000 tons.

It was in 1888 that the copper product of the United States first exceeded 100,000 tons. Eight years later the yield was over 200,000 tons. In the subsequent years there has been a further substantial increase, reaching in 1912 to 706,213 long tons.

The product in 1900 was 268,800 tons. In that year Arizona claimed a product of 85,500 tons, which placed it third in the productive list, Montana being second and Michigan first.

From 1883 to 1900, both years inclusive, Arizona claimed a product of over 500,000 tons. According to the

annual average prices during that interval, the value of this product was $142,000,000.

In 1901 Montana produced 114,000 tons copper, or about one-quarter of the world's supply, thus placing it at the head of the copper industry of the country. The average price of electrolytic copper, the kind produced in that State, in that year, was over 16 cents per lb., and hence the value of the yield was $36,751,800. In the following year the price averaged a little over 11½ cents, and this low value had its effect on the product, which was 106,100 tons. Arizona produced 179,000 short tons in 1912, valued at about $58,000,000, thus placing it at the head of this industry in this country.

There have been two noteworthy attempts to control the price of this metal. The first originated in France, and was a dismal failure. That was many years ago. The second was in this country, and met the same fate, embarrassing in its collapse many financial institutions throughout the country.

The market value of the metal has been subject to many fluctuations under various influences in the last half century, and the range between certain years has been very wide. The two attempts to corner the market, of course, enhanced values beyond the normal. The variations in supply and demand have also had their bearing on values.

In 1860 bar copper sold in New York at 24c per lb., in gold, though the other extreme for that year was 19¾c. Five years later, during the suspension of specie payments, the same metal sold at 50½c in paper money, declining the same year to 28c and afterwards selling at 45½c to 39¼c. Subsequently the highest price in currency was 44c in 1872 and the lowest 18c in the same year.

Since the resumption of specie payments in January,

1879, the price has been on a specie basis. In January, 1880, it sold at 25c, but soon dropped to 17½c. The best subsequent price for many years was 20⅜c in January, 1882. This declining tendency continued until 1894, reading 9c near the close of that year. For the next four years there was little variation in the price. In that interval the demand and supply received some adjustment, and in the next three years the range was 18¼c to 16½c. There are now so many productive sources of copper in this country that extreme prices can hardly be duplicated.

California Borax Product.

The discovery of borax in California added a new and unique industry to the State. A deposit of this kind was found in Modoc County in 1863, at the bottom of a shallow body of water 4,000 feet long, 1,800 feet wide and 3 feet deep, known as Clear Lake. Other deposits were subsequently found in other parts of the State.

These deposits were worked in a small way from the very start, and with a varying degree of success. Prior to this discovery, the country had depended on foreign sources for supplies. On account of the high cost, the consumption had been light, and the uses to which the article had been applied were quite limited.

As the California product began to increase, capital was attracted to the industry, and the development work was greatly accelerated. Economies were introduced in the production and in transportation to markets of consumption. These led to large reductions in the cost to the consumer and greatly enlarged the field both in area and in the variety of uses in which it was found to be of service.

In September, 1890, the Pacific Coast Borax Company was organized under the laws of California to further develop the industry on a still larger scale. The authorized

capital of this corporation was placed at $2,000,000, but the outstanding capital was reported at $1,900,000 in 1912.

British capitalists have been interested in the company for some time, and it is understood that they now have full control of the corporation.

According to the reports of the State Mineralogist, the product of borax in California in 1894 was 11,540,000 lbs., equal to 5,770 short tons, valued at $807,800. There was a moderate annual increase in the next four years, the total for 1898 being 8,300 tons. In the very next year the total was over 20,000 tons, and in the following year it was over 25,000 tons. In 1901, it was only 7,221 tons. However, in the very next year it was 17,202 tons.

From 1894 to 1902, a period of nine years, the total product was 105,350 tons, valued at $9,682,700. These totals cover the refined article.

In the subsequent years, according to the same authority, the totals refer to the crude product. In 1903 this was 34,430 short tons, valued at $661,400. In the following two years it averaged 46,000 tons per annum. The record total product was 58,173 tons in 1906.

From 1903 to 1911, both years inclusive, the crude product was 291,740 tons, with an estimated value of $8,903,800.

The company began paying dividends in December, 1890, and the number paid to October 1, 1912, was 192. Most of these were at the rate of $1 per share per month, but there were 16 at rates varying from $2.50 to $10 per share, and one at $40. The total dividends paid to October, 1912, are equal to $308.50 per share.

California Cement Product.

California Portland cement is not made in Portland, Oregon, or in Portland, Maine, or in any other Portland,

but is made in several localities in California. There was a time in the history of California when all its supplies of Portland cement came from Europe. That, however, was some years ago, when large consignments of that kind were received. In recent years some vessels have carried cement from Europe to the Pacific Coast, but mostly in the form of ballast.

In the pioneer days of California, considerable lots of Eastern cement, known as Rosendale, were imported into San Francisco. In the early sixties a good quality of cement was made at Benicia, California, and that industry was maintained for several years, and to some extent was a competitor with Eastern cement, but never with the Portland cement from Europe, which was of a much higher grade.

In more recent years the right combinations have been found in California for making Portland cement that compares favorably with that imported from Belgium and other European countries. This has been a fortunate thing for the State, especially in the last few years, incident to the rebuilding of San Francisco. The big fire of April, 1906, had much to do with promoting activity in the development of this industry. That event created the necessity for large supplies of this article, and the response has been equal to the demand.

There are upwards of a half dozen firms or corporations engaged in manufacturing Portland cement in different counties in the State, both north and south of San Francisco.

The Santa Cruz Portland Cement Company was organized in June, 1905. The plant is near Davenport, only a few miles from Santa Cruz, and has a capacity for 6,000 barrels daily.

The Standard Portland Cement Company has a plant

in Napa County with a daily capacity of 3,000 barrels. This company reports a capital of $4,000,000.

The Pacific Portland Cement Company was organized in 1905 with a capital of $6,000,000. The plant is at Cement, Solano County, and consists in part of 1,700 acres and two mills. The company has paid a number of dividends at the rate of 50 cents and 75 cents per share monthly.

From the reports of the State Mineralogist, it is learned that from a product of 8,000 barrels cement, valued at $21,600 in 1894, the yield has been increased to 6,371,400 barrels in 1911, valued at $9,085,000. It was not until 1902 that the yearly product exceeded 100,000 barrels, but three years later it was over 1,000,000 barrels. From 1894 to 1911, a period of 18 years, California has produced 23,254,100 barrels Portland cement, valued at $33,424,000. This industry is one in which all the parties interested are to be congratulated, because of the money it has kept in the State and the employment it has given to labor.

California Leads in Earth Oil Product.

Earth oil was known to exist in some parts of the world centuries ago. It was dipped from wells on the banks of the Irawaddy many scores of years ago. As early as 1858 these wells were from 200 to 300 feet deep, and the oil was used by the Burmese for light and other purposes.

The first earth oil obtained by boring in this country was the result of some operations by Colonel Drake of New Haven at Titusville, Pa., on the 28th of August, 1859. At a depth of 69½ feet he struck a fine flow which yielded 10 barrels per diem without pumping. Oil had been previously obtained from pools and trenches near the earth's

surface, but Colonel Drake is entitled to the credit of boring the first oil well.

That was the beginning of the earth oil industry in the United States. That one oil well at Titusville, Pa., has since been multiplied by thousands.

While Pennsylvania was the first State to herald a discovery of this kind, it did not long hold a monopoly. Many other States have since made the same discovery, and added materially to the supply.

From the first ten barrels of 420 gallons produced in the first day's flow from that lone well at Titusville, a business of magnificent proportions has been developed. It is impossible to form any adequate estimate of the value and importance of this industry to the United States, both in the home and in the foreign field.

Even in the first quarter of a century of the existence of this industry in the United States, the development was remarkable. In that interval 38,000 wells were bored, and one of these yielded as high as 4,000 barrels daily. Up to that time it was estimated that $400,000,000 had been invested in the enterprise.

From 82,000 barrels as the total product for 1859, the yield steadily increased until it reached 11,188,700 barrels in 1874. At that time grave fears were entertained that the product had reached its maximum. A slight decrease in the yield in the following year tended to confirm these fears. A further reduction the very next year, when the total product was less than 9,000,000 barrels, produced something of a panic among those interested in the trade.

Instead of being discouraged by these results, they had directly the opposite effect. They stimulated a renewal of the search for other deposits, the incentive being higher prices for the article because of the falling off in the flow, which, in case of success, meant much to the discoverers.

This search was active and thorough, and resulted in finding similar deposits in the Bradford, Pa., district.

This second discovery scattered all fears of an exhaustion of supplies for the time being. The decrease in the yield was immediately checked, and from that time on there was a steady increase in the product annually for some time.

From the low yield of 8,823,100 barrels in 1876, the yearly product rose to 28,650,200 barrels in 1882, which was the maximum yield for the first twenty-five years of operations. In the last year of that period the total was 26,662,800 barrels.

From 1864 to 1883, a period of twenty years, the yield was 281,451,423 barrels, equal to 9,174,979,766 gallons.

To provide a demand for this increasing product, foreign countries were early invaded in search of customers, and with good results. In 1864 these exports were 23,210,400 gallons, valued at $10,782,700. These shipments included petroleum and all its various by-products of benzine, naphtha, gasoline, paraffine, etc. In 1883 these shipments were 505,931,600 gallons, valued at $44,913,100. In the previous year, when the maximum of exports for that interval was reached, the total was 559,954,600 gallons, valued at $51,232,700. The maximum of yearly revenue from this foreign trade for that interval was reached in 1877, when the total was $61,780,400 for 309,198,900 gallons as the result of higher prices.

The value of this foreign trade for those twenty years was over $700,000,000 for the 4,580,000,000 gallons exported. As this total is less than one-half of the product for those twenty years, the total product for that period represented more than $1,400,000,000. It took California, the most prolific gold State in the country, over fifty years

to produce a gold product equal to that magnificent sum. A comparison of net yield might show a different result.

In 1884 American producers of petroleum were somewhat anxious over a continuance of the European demand, because of advices from Russia to the effect that there was increased activity in the oil fields of that country. It was given out at that time that Russia could lay oil down in German ports at 25 cents per barrel less than the American product had been receiving. The significance of this warning arose from the fact that in 1883 it was ascertained that the shipments to Europe from New York alone in that year were 304,000,000 gallons, and that this quantity included over 86,000,000 gallons to German ports. Assuming that these shipments to Europe from Baltimore and Philadelphia embraced a corresponding proportion to Germany, it was argued that the loss of the German trade was equal to a loss of 25 per cent of the entire European trade.

An examination of the yearly exports of American petroleum to Germany in the subsequent years shows that these fears were measurably groundless. It is true this trade with Germany has not increased in the same ratio as in some other European countries, notably Great Britain, but the percentage taken by Germany has not varied much from one-quarter of the total quantity sent to all European countries. In 1892 it was 34 per cent. Two years later it was not quite 18 per cent. In other years from 1892 to 1901 it was 24 to 26 per cent. In the decade ending with 1901, American petroleum exports to Europe increased over 40 per cent.

When earth oil was first discovered in California is not recalled. However, it was not much later than the date fixed for the same event in Pennsylvania. Of course, there were no railways between New York and San Francisco

in those days, and mail advices were about a month old when they arrived.

The news that earth oil had been discovered in Pennsylvania created considerable interest in California, where most of the population were engaged in hunting for mineral wealth of all kinds, and therefore fully primed to take up any new trail that might be suggested. The search was taken up at once, now that the gold placers were not doing as well as formerly. It was not long before indications of the object in search were found in the northern and southern counties of the State, particularly in the section south of San Francisco.

These slight indications created considerable excitement, and striking oil-bearing deposits was considered quite as important as striking gold-bearing quartz. Claims were located right and left in all known districts where there were the slightest indications of oil in the ground. The next move was to organize companies to work the claims. That was the California way of doing things in those days. They were altogether too generous to keep a good thing to themselves, and at the same time they were just selfish enough to be willing to divide the responsibility of a failure of the enterprise with others.

As early as 1865 there were seventy oil companies formed in California, with a nominal paper capital of $45,000,000, and from forty to fifty wells had been started, mostly in Humboldt County. Many of these were small affairs, though even as early as 1865 one of them had been carried to a depth of 400 feet.

There was not a natural flowing well among the whole lot, but many of them yielded fairly well with the use of the pump.

The earth oil product of California for 1865 was 60,000 gallons. Hayward & Coleman received 40,000 gallons of

that product, mostly from Santa Barbara County, and Stanford Brothers 12,000 gallons, of which 3,000 gallons was from Humboldt County.

Though this product did not come up to the expectations of the more enthusiastic, there was still a hopeful spirit entertained. At the inception of this movement, some of the more optimistic promoters indulged their imaginations with pictures of the time when California would not only supply all the wants of the coast in this particular, besides China, Japan, East Indies, Australia, Mexico, South and Central America and the Pacific Islands, but would actually invade Pennsylvania with her superior means of light. A year's hard work in the field and the expenditure of several thousand dollars, gave a different color to the picture. But that imaginative scene has been literally realized in every particular, even to the sending of California oil to the Atlantic side of the country.

There was less said about California petroleum in 1866 than in 1865, and still less in 1867, though in the last-named year one of the wells had attained a depth of 1,300 feet. About that time the industry was measurably abandoned. Inexperienced operators, costly plant, high wages, an inferior quality of oil, imperfect distillation, comparatively low prices of Eastern petroleum, all combined to bring about the above result. The wonder is that the parties interested in the business in these early years held on as long as they did, considering all the obstacles encountered.

Still another element of discouragement at that time was the theory advanced by some of the local scientists that the geological formation of the districts where the oil was found forbade the idea of any considerable supply ever being obtained. The opinion of the scientists in this matter, ending with such a conclusion, was not necessary to

work an abandonment of all activity in well boring, but that opinion, with the other obstacles already mentioned, settled the business in the minds of many, and for several years the industry was allowed to repose in a state of comparative quietude.

All scientists are not wise. The exceptions show that some of them are otherwise, at least temporarily. It is not wise for the wisest scientists to assume that they know for a dead certainty just what is in the earth hundreds and thousands of feet below the surface. History shows that they do not.

About the year 1876 or 1877 the petroleum excitement in California was renewed. It is true, the business had not been entirely given up during the eight or ten years following the first period of excitement. But the industry was now taken up with more intelligence, the result of experience, though perhaps with less vim. The reason for this renewed attention at that time was the fast spreading theory that the wells of Pennsylvania were giving out. There were many facts then floating about to confirm that theory; and but for the discovery of other districts in Pennsylvania soon afterwards, there would probably have been more truth than poetry in these statements.

At any rate, the situation at the East had the effect of putting the petroleum business of California on an enlarged, more intelligent, more satisfactory and more permanent basis. New men became interested and new capital was secured. There was a concentration of work, and every move made formed a part of a grand system for manipulating the industry for all it was worth. To this end all desirable locations were secured and the best and most approved appliances for working the same were obtained and placed in position, with pipe lines for getting the oil to a convenient point of shipment by rail to the

refinery at Alameda, which was erected as a part of the same system.

One of the events leading up to this new order of things was the arrival in California in 1875 of two gentlemen from Philadelphia. These persons evidently knew something about the petroleum business. They immediately leased twenty acres of oil lands in one of the southern counties, and sank two wells 180 to 220 feet, which produced from 15 to 20 barrels daily. Parties interested examined this prospect, and soon afterwards came to the conclusion to embark in the business. Of course, there were a good many preliminaries to be settled, and much experimental work was performed.

As a final result of these investigations, there was organized the Pacific Coast Oil Company, with Charles N. Felton, Harry Tevis and D. G. Scofield as directors. That was done in 1879.

At that time there was a small refinery at Newhall, one of the stations on the Southern Pacific railroad, in Los Angeles County. This refinery was utilized to furnish the southern end of the State with needed supplies of refined oil. In the following year the company erected extensive works for refining crude oil at Alameda. At the start these works handled 400 barrels crude oil daily, but were only run for six days in the week. The net product of refined petroleum annually turned out was about 2,000,000 gallons.

In the first four years of its existence the Pacific Coast Oil Company bored 24 wells in Los Angeles and Ventura counties. Four of these were closed through loss of tools, but the others turned out to be producing wells. The principal supply at that time came from the San Fernando district in Los Angeles County. This district also showed the best grade of oil produced up to that time. The de-

posit of sand rock containing the oil in that district at that time varied from 150 to 210 feet in depth, whereas in Pennsylvania at the same time the sand rock deposit was only from 30 to 35 feet deep. The 20 wells then operated by the company averaged 35 barrels daily, or 700 barrels daily for all.

The beginning of the petroleum industry in California on broad business principles looks rather small, but as a matter of fact it was not so small as it looks. At that time Pennsylvania had been producing oil for a quarter of a century. It had 20,000 wells in operation in 1883, with a combined daily product of 63,000 to 70,000 barrels. Taking the outside figure, the Pennsylvania wells show an average daily product of only 3½ barrels, against a daily average of 35 barrels for the 20 California wells then in operation. One of those wells had been in operation for seven years, and its total yield up to August 1, 1884, was 130,000 barrels. This was known as Pico No. 4. Its largest daily yield was 80 barrels from a natural flow. The deepest well at that time was 1,760 feet below the surface.

Following the example of Eastern producers of petroleum in the matter of transportation of the crude oil from the wells to the refineries, the Pacific Coast Oil Company early made the most economical arrangements for the introduction of such transportation facilities then possible. These consisted of a pipe line from the wells to the nearest station on the Southern Pacific railroad, where flat cars with large iron tanks received the oil in bulk and carried the same to the refinery in Alameda. These tanks were owned and operated exclusively by the Continental Oil and Transportation Company. The tanks held from 3,500 to 4,200 gallons. Arrangements were also made for shipping the oil in tanks on the regular coast steamers by pipe

line from the wells to the steamboat landing, thence by steamer direct to Alameda. The last-named pipe line was 26 miles in length, and was quite a unique feature in oil transportation in those days. Some of the oil sent through those pipe lines was low grade and pretty heavy, as is often the case with oil obtained from shale deposits.

At the same time that the company was getting oil from these wells in Los Angeles and Ventura counties, it was obtaining some supplies from deposits that had been found in the Santa Cruz Mountains, about 18 miles from San Jose. It was also prospecting for deposits in other sections of the State.

As the result of the diversified economies put in operation in the production and refining of crude petroleum, and in the transportation and marketing of the same and its several by-products, the price to consumers has been wonderfully reduced since the article first became a commercial product of the country.

What the price of refined petroleum was in the New York market prior to 1864, or during the first five years of the operation of the industry, is not recalled. It is known that from 1864 to 1883 there was for the most part a steady and somewhat radical reduction from year to year.

The annual average rates for standard white in barrels during that interval in the above market, as compiled by the writer in 1884, is of interest. In 1864, the average was 33.8c per gallon. In the following year it was 48.3c, and in the next year 42.9c. It never reached even the lowest of these three averages again. From 32.2c in 1867, it rapidly declined to 11.2c in 1875. For some reason, not now remembered, it rose to 21.3c in 1876, declining the following year to 14.9c and in the next year to 10.6c. From 1879 to 1883 the rates varied from 9c to 7.3c.

That is what well-thought-out economics, good business

judgment, concentration of effort, active and persistent energy, did for this business in that interval.

The foregoing illustration as to the variations in values of petroleum refer to the article in barrels in the New York market. In looking over the price lists in the San Francisco market for a similar illustration, the California Daily Register of May 21, 1857, was first consulted, but, as that was printed upwards of two years before petroleum became a commercial product in this country, and only referred to camphene as the best illuminant to be had, the paper was immediately laid aside for some later publication.

California began using petroleum as an illuminant quite as quickly, and perhaps even more generally, in proportion to population, as any other part of the country, not even excepting Pennsylvania, the only source of production in the first decade of the industry. The article was then called coal oil, and subsequently it was sometimes manifested in the freight bills as kerosene oil. The dictionary says that kerosene is an oil from bituminous coal, used for illumination, and that petroleum is a liquid mineral pitch or rock oil.

The imports of this article in San Francisco under its various names for the year 1863 were 60,735 cases and 640 barrels. In the latter form of package, the article was manifested as coal oil and kerosene. In the case form, nearly all was manifested as coal oil, the only exceptions being 6,844 cases kerosene and 200 cases petroleum.

A case of petroleum contains two five-gallon tins, and that was the popular form of shipping the Eastern product to San Francisco. A barrel of petroleum means 42 gallons. Therefore, these imports at San Francisco in 1863 were 634,230 gallons.

In 1865, under a depletion of stocks in San Francisco,

sales of coal oil to arrive were made at $1.40 per gallon, while some jobbing lots were sold as high as $1.75 per gallon. Prices have never been as high as that since. One reason for these extreme rates was the internal revenue tax of 20c per gallon levied during the Civil War. In the first six months of 1876, Devoe's Brilliant, a popular brand, sold at 25@27½c per gallon. A change in the local agency of this brand at the end of that period sent up the price during the last half of the same year to 44@45c.

Another extreme in the price of coal oil in the same market occurred in 1883, when 150 degree oil in barrels sold down as low as 13c. Case oil at that time was 3½c to 4½c higher than in barrels. In the very next year case oil of the same degree sold at 28@31c.

Since 1884 there have been many variations in the value of petroleum in the San Francisco market, and some of them have been quite sharp and radical, but the general trend has been to a lower level. Prices of case oil in the closing months of 1912 for 150 degree varied from 15½c to 18½c, and in iron barrels 5c less.

The present era in the California oil industry may be safely dated back to 1875, when the two gentlemen from Pennsylvania arrived in San Francisco to look over the field and take up the work. For the five years prior to their arrival the product had increased from 3,600 barrels to 7,700 barrels, making a total of 28,200 barrels, valued at $52,800.

An industry that could not show a better record than that in five years was not very inspiring, and it must have required a good degree of optimism to invest time and money in such an unpromising undertaking.

The writer began compiling figures as to the product of California petroleum in 1879. Five years later, in seeking information on the subject from a merchant who

handled much of the coal oil trade, he was told that the product might be 100 barrels per day, but as the Eastern wells were turning out 70,000 barrels per day, the yield in this State was too insignificant to interest him in the least. Others interviewed at the same time did not know as much as that, and cared less, if that were possible.

Despite these difficulties in ascertaining the facts in the matter, the writer's personal compilation for the five years ending with and including 1883 was accepted as substantially correct when submitted to parties well versed in the business, and has since formed a part of the statistical history of this industry in many of the repeated publications.

Beginning with 1870, when the yield was reported at 3,600 barrels, the product and value in ten-year periods may be stated as follows:

	Barrels	Values
1870–79	96,035	$ 142,923
1880–89	3,050,024	5,370,561
1890–99	11,610,917	12,155,920
1900–09	370,520,856	255,197,122
1910	77,699,683	46,752,512
1911	83,744,044	40,552,088
1912	89,601,565	53,761,000
Grand Total	636,323,124	$413,932,126

For the first decade the annual yield was 9,600 barrels; for the second, 305,000; third, 1,161,000; fourth, 37,052,000 barrels. Prior to 1911, these totals did not include the quantity consumed on the field. In 1911 it is estimated that about 5,000,000 barrels were consumed at the plants, and this has been added to the total for that year and also for the year 1912.

The number of producing wells has been steadily increased from year to year for many years. At the close

of 1901 these wells numbered 2,051, while at the close of 1912 there were 5,625 wells of more or less productive capacity. Of the wells in operation a decade ago, more than one-half were in the Los Angeles district and the remainder in the San Joaquin Valley. Of the open wells at the close of 1912, there were 3,765 in the San Joaquin district and 1860 in the southern counties.

If the man be living who in 1884 said the yield of earth oil in California might be 100 barrels per day, but as the Pennsylvania wells were yielding 70,000 barrels per day, the oil product of this State was of little concern to him, he may not think much of the opinion he then expressed in view of the statement of production of California earth oil since 1884, published elsewhere.

In 1880 Pennsylvania was credited with a product of 26,027,600 barrels. This total included a small quantity from New York. But, allowing Pennsylvania credit for the whole amount, it means only a daily average of 70,000 barrels for the 365 days of the year. California has been doing much better than that for several years, while the Pennsylvania product has been on the wane since 1895, the product for 1900 being only 13,258,200 barrels. In 1902 California produced 13,973,500 barrels, which is in excess of that produced by the former State in 1900. In 1910 the product of Pennsylvania was only 8,795,000 barrels.

Several other States have passed the Pennsylvania yield since 1900. Ohio took the lead that year, with a total of 22,362,700 barrels, and Virginia was a good second with 16,195,600 barrels. In 1907, three States had forged ahead of Pennsylvania. The new competitors in the order of product were Oklahoma, with a yield of 43,524,100 barrels; California, 39,748,400 barrels, and Illinois, 24,282,000 barrels. These three States held the same rank in 1908. Since

then California has led all other States in this industry, with Oklahoma as a good second.

Another recognized authority on the California oil product gives the yield for 1912 at 90,074,439 barrels. The same authority says the prices have ranged from 30c for the lower grades to $1.25 per barrel for the higher grades, and gives the value of the product for 1912 somewhere between $50,000,000 and $60,000,000. At an average of 60c per barrel, this means about $54,000,000.

The three oil districts of the State have been classed as the Southern, the Coast, and the San Joaquin. The southern district embraces Newhall, Salt Lake, Los Angeles, Whittier, Puente and Fullerton. The coast district includes Watsonville, Arroyo Grande, Lompoc, Santa Maria, Summerland and Santa Paula. The San Joaquin district comprises the counties in that valley lying north of Tehachapi.

According to the published percentages for the past five years, the southern district furnished 16.80 per cent of the product in 1907, the coast district 21.80 per cent, and the San Joaquin district 61.40 per cent. The percentages for these districts for 1912 were as follows: Southern, 12.30; coast, 8.50; San Joaquin, 79.20.

The producing wells in the San Joaquin district are apportioned as follows: Kern river, 1,643; McKittredge, 260; Midway, 681; Sunset, 249; Coalinga, 880; and Lost Hills, 52. The last-named was only opened in 1910. The wells in these districts furnished 71,307,800 barrels of the total product for 1912.

The oil output of California last year was larger than any other oil district in the world.

For the last three years California has furnished from 35 to 40 per cent of the total product of earth oil in the United States.

It is a fortunate thing that all men are not pessimists. The world has little use for any large percentage of that class. The only reason for their existence at all is the restraint they exercise over the too radical optimists. It is the optimist who brings things to pass, who builds up along every line of endeavor in every department of life, and who is never fully content with the difficulties overcome and the achievements effected.

Every step of progress the world has ever made is the result of optimism. Some are born with that temperament in superabundance, and when properly directed by sound judgment they accomplish much for themselves and others. Those not so fortunate in this inherited quality may become fairly good optimists if they so choose by making the best of their opportunities, and always look on the bright side before definitely shaping their course of conduct.

The earth oil industry of California, as well as in other sections of the country, must be credited to heroic optimists, men who are not easily daunted by failures. The pioneer in any line of endeavor does not always reap the fruit of his daring. But he opens the way for others; and these, after much patient and persistent effort, and the expenditure of much time and money, finally secure the desired result.

There was a two-fold importance attaching the discovery of earth oil in California. In the first place, it supplied a long-felt need for a cheaper fuel than coal, an adequate supply of which has never been found in the State. All manufacturing industries where steam is used have been handicapped by high-priced fuel and labor in competing with other sections of the country. Fuel oil for the generation of steam has greatly modified that factor in the cost of certain manufactures where there has

been an abundance of the raw materials to be converted into finished products. It has also been highly beneficial in the transportation service, both on water and land, as well as for domestic purposes.

In the second place, it has created considerable demand for machinery in connection with drilling wells and hoisting plants, and in the construction of iron pipe lines and pumping stations. Still another factor is the employment it has given to large numbers of men in an entirely new local field, both at the wells and the refinery plants which have been created. In addition it has added a new and important element in the commercial relations of California with adjacent States, with the noncontiguous Territories of Alaska and Hawaii, and with various foreign markets. Besides all these benefits, it has opened a new and large field for a fairly remunerative employment of large amounts of capital.

Exports of California crude or fuel oil were first introduced in a limited way in 1902. The first Macedonian cry of this kind came from the sugar planters at the Hawaiian Islands, who wanted a cheaper fuel than coal in operating their mills. After some experiments with this new fuel for making steam, they forwarded to San Francisco orders for cargo lots. Two moderate-sized sail vessels were fitted up with iron tanks to take this freight to the islands. The pioneer vessels in this new line of the transportation service out of San Francisco were the Fullerton and the Marion Chilcott. Four of these cargoes were sent to the islands during the latter part of that year.

It is evident that the sugar mill men were satisfied with the results of the innovation they had introduced, for in 1903 the two pioneer vessels not only found steady employment in that service, but four steamers were pressed into the same service, one of which was built at the Union

Iron Works expressly for that trade. These steamers had tanks installed to carry the oil in bulk, and of course made much better time than the sail vessels; and, as a result of that improvement in this service, twenty cargoes of oil were sent to the islands in that year. It is needless to add that the Territory of Hawaii has been a good customer for the oil ever since.

In addition to this source of demand in 1904, British Columbia took three cargoes, and in 1905 Alaska and South America were added as customers for California crude or fuel oil.

In 1906 the Union Oil Company laid a pipe line across the Isthmus of Darien, and in December of that year a cargo of fuel oil was sent from the Southern California coast to Ancon. Since then this trade with the Isthmus has steadily and rapidly increased. Upon the completion of the Panama Canal, now that so many ocean steamers are using oil as fuel, if further supplies are needed when passing through that waterway, they can be obtained, as large stocks will be kept on hand at stations on the Isthmus for that purpose. Since 1907 an occasional cargo has been sent to Central American ports.

The first cargo shipment of refined oil in bulk left San Francisco on the tank steamer Housatonic, September, 1904, for Shanghai and Hankow, China. This cargo consisted of 1,300,000 gallons. Another cargo followed to Shanghai by the steamer Dakotah on the last day of the same year. Two more steamers were impressed into the same service with Shanghai in 1905. These were the Appalachee and Winnebago, and the trade was nearly four times as large as in the preceding year.

In 1906 and 1907 there were still further and larger gains in this trade with China and Hongkong, culminating with a heavy movement in the latter year. Several steam-

ers were added to the fleet in those two years, including two sail vessels, one of which still remains in the service. New points of distribution in China were Canton, Chiakiang, Foochow, Taku, Tientsin.

The first direct shipments of cargoes of refined oil in bulk from San Francisco to Japan and India were made in 1906. Among the Japanese ports thus supplied were Yokohama, Hiogo, Nagasaki, Itsuka and Mororan, while the ports in India embraced Bombay, Calcutta and Kurrachee. An occasional cargo by sail to Japan consisted of case oil.

There have been two full cargoes of California refined oil in tins sent to Manila, the first in 1906 and the second in 1908.

There was quite a light movement to Chinese ports in 1909 and 1910. The movement to Japan in the same years was lighter than previously or since. On the whole, Japan has been the largest foreign customer for this article, the exports from San Francisco to that country in 1912 being particularly heavy.

This movement in California refined oil to Oriental ports was introduced and has since been maintained by the same parties that inaugurated cargo shipments of American petroleum to that section of the world from Atlantic ports. The shipments from the Atlantic side of the country at that time were in tins of five gallons each, two of the tins being enclosed in a wooden box, and the whole cargo forwarded by sail. At first ships were chartered for that particular trade, but later three or four large steel ships were built for account of the owners, and by them were used exclusively in that trade.

Since 1902 the shipments of California earth oil in cargo and partial cargo lots, and in the form of crude as fuel, as well as refined to China, Hongkong, Japan, Manila, British Columbia, Isthmus of Darien, South and Central

America, Hawaiian Islands and Alaska, and the values of such annual shipments, were as follows:

Years	Crude or Fuel Oil		Refined Oil	
	Barrels	Value	Gallons	Value
1902	60,235	$ 82,237	.....	.....
1903	411,000	576,269	.....	.....
1904	453,500	642,909	2,925,000	$ 123,250
1905	796,025	1,067,240	9,588,973	328,006
1906	807,800	790,017	39,253,426	1,535,839
1907	854,500	592,570	56,866,090	2,568,314
1908	1,294,500	879,957	66,917,262	3,187,692
1909	2,100,250	1,571,907	47,066,099	2,093,499
1910	2,809,500	2,086,579	31,269,665	1,187,311
1911	3,136,403	2,190,760	71,370,671	2,424,322
1912	4,231,549	2,976,130	91,163,312	3,868,242
Total .	16,955,262	$13,456,575	416,420,498	$17,316,475

These totals are very gratifying to all concerned, and reflect commendable zeal on the part of those who have made such a large movement in the past decade possible. As will be seen, the last year was the best of all.

The destinations of the foregoing shipments, quantities and values, were as follows:

To	Crude Oil		Refined Oil	
	Barrels	Value	Gallons	Value
Hawaiian Islands....	7,780,241	$6,958,465	1,200,000	$ 45,000
British Columbia.....	311,000	270,040	.....	.....
Alaska.....	1,802,452	1,713,579	.....	.....
Ancon or Panama....	3,234,250	1,960,193	.....	.....
South America.....	3,553,319	2,325,498	.....	.....
Central America.....	224,000	178,800	.....	.....
China.....	.....	.....	148,454,860	5,950,690
Japan.....	50,000	50,000	251,263,901	10,620,647
India.....	.....	.....	13,101,637	514,550
Philippine Islands....	.....	.....	2,400,100	185,588
Totals 1902–12..	16,955,262	$13,456,575	416,420,498	$17,316,475

A barrel of petroleum is reckoned at 42 gallons, but all the shipments were in bulk and pumped into tanks on the ships alongside shipping points and unloaded in the same way at ports of destination. Reduced to gallons, these barrels of crude oil are equal to 712,121,004 gallons, valued at $13,456,575. The combined shipments for the period covered aggregate 1,128,541,502 gallons, valued at $30,773,050. In addition, large shipments have been made to Oregon, Washington and adjoining States. In February, 1913, a large cargo of California refined oil was sent to Borneo, the first to that section.

SOIL AND OTHER PRODUCTS OF CALIFORNIA

Some California Soil Products.

Thus far this story has had to do with a brief review of seven of the prominent underground resources of California, namely, gold, silver, quicksilver, copper, cement, borax and mineral oils. There are forty other mineral products in the State that have received more or less attention, and which in the aggregate have been sources of considerable wealth, while at the same time furnishing employment to many people in various walks of life.

It is in order now to give consideration to some of the more prominent resources that have been developed from the surface of the earth as bounded by the geographical limits of the State.

The expression, "Mother Earth," is an affectionate one, and the application is well deserved. It is the best asset bestowed by the Creator upon His creatures. It is the only planet that the people living upon it know anything about. They began their existence here, and here the earthly part

of their existence will end. It is the source of all life, animate and inanimate. It is the primary source of all wealth. Its products, in their multifarious forms, contribute to make life worth the living. While air is essential to life, people cannot live upon air alone, neither can they live without it. Air is the last asset they surrender, and there are few perhaps whoever surrender it willingly.

There were agriculturists in California before the advent of the miners. Even in the mission era, the Indians raised cattle and grain. The few white people who came into the State overland through Oregon became farmers before they became miners. In the colony brought out from New York on the ship Brooklyn by Sam Brannan in 1846, there was quite a number of mechanics and farmers, who soon applied themselves in their new environment to their respective vocations.

Thus, even before the discovery of gold, there were white mechanics and farmers at work. Less than two years afterwards most of them forsook their shops and ranches for the mines. Being on the spot when and where the gold discovery was first announced to the world, they had some advantage over the hundreds and thousands who subsequently arrived in the grand rush for gold.

Probably not one of these new arrivals had any idea of taking up farming as an avocation in this State. They knew nothing of agricultural conditions in this new section of the country, and, besides, gold fields were more attractive to them just then than grain fields. They had been told that in California there was no rain for six months in the year, and nothing but rain in the other six months. That was so different from the climate back East, they were sure that farming would never be a success here.

California Wool and Hides.

But when the gold placers began to show signs of exhaustion, some of these miners turned their attention to agricultural pursuits in their new surroundings. Those who first made this break were not long in finding out that good money could be made in raising grain and other produce, and also in the production of cattle, sheep and other livestock. In fact, the results of this new undertaking greatly surprised them. The soil and the climate brought forth abundant harvests, with a less outlay of capital and labor than such economics yielded in the farms they had worked in the East. In addition the prices received for their products were much more remunerative. Some of those early California farmers never went back to mining, but added acre to acre, and soon became wealthy.

Attention was first given to the raising of livestock, and then to grain, hay and the usual lines of garden produce. There were good returns from livestock in the sale of beef and mutton for local consumption, and in the sale of hides, tallow, pelts and wool for export, chiefly to the Atlantic States. The earliest record of the California wool clip is 1854, when the product was 175,000 pounds. Three years later it was over 1,000,000 pounds. A decade from that time it was over 10,000,000 pounds. At the end of another decade it was nearly 57,000,000 pounds. That was the record yield, and it was made in 1876. From that year the yield has been irregularly falling off, the total for 1912 being only 14,000,000 pounds.

The exports of California wool have naturally followed along the same lines as the yearly product. There is no record of the very early shipments. In 1857 there was exported from San Francisco 1,100,000 pounds wool, valued at $173,500. Five years later the quantity was nearly

6,000,000 pounds, valued at over $1,000,000. In 1868 the total was over 13,000,000 pounds, of a value of $2,423,000. It was about the same in the following year, but in 1870 there was a considerable increase in the clip, and the exports for that year, including the shipment by rail overland, were over 19,000,000 pounds, valued at $3,500,000.

In reviewing the trade for that year, the writer did not hesitate to make this prediction: "From present indications, the current season will be the most active in the history of wool raising in California." The record for 1871 fully justified that prediction, the shipments for that year being 22,323,500 pounds, valued at $6,697,000. Of the quantity sent out of the State in that year, only 2,223,300 pounds went by the water route, the remainder going by the overland route.

The climax in the exports of California wool occurred about five years later, though subsequent receipts from other sections offset to some extent the yearly decrease in California wool exports.

Various causes have contributed to the decadence of this industry. Changes in the tariff were one discordant element. More profitable uses for the land formerly occupied for grazing purposes was another. High price of labor in the care of the sheep and in the local manufacture of the wool was a good third. Back in the sixties there were two thriving woolen mills in San Francisco, and others in the interior. Blankets made at these mills had a continental reputation for their superior quality, and found ready sale here and at the East. The two local mills that were prosperous in the sixties and later on ceased operations many years ago, and no serious effort has since been made to revive the industry.

The export trade in hides from San Francisco began very early. Such shipments were made long before the

discovery of gold. The writer's record goes back to 1859, when the number shipped to domestic Atlantic ports was 151,400. The movement steadily increased from that year until 1865, when the number shipped to the same markets was 500,000, valued at over $1,000,000. Upon the opening of the first through railway line to New York in 1869, these shipments were largely diverted to that route, as was also the case with the wool shipments, and statistical records of such movements thereafter were not so easily obtainable. The wool shipments by the water route in 1870 were nearly 11,000,000 pounds, valued at over $2,000,000.

Wheat Crops and Exports.

From 1848 to 1858 California was largely dependent on outside sources for flour and wheat. Oregon and the Eastern States and South America were the principal contributors to the local supply in that decade.

The cereal harvest years in California date from July 1st. First lots of new crop grain have frequently arrived in June, and in some instances in May.

For the five cereal years ending June 30, 1860, the exports of flour from San Francisco were 232,000 barrels, and of wheat 416,000 centals. One-half of the flour was shipped in the first of those cereal years, and all but 35,000 centals of the wheat went out in 1859-60. The wheat exports for that year were from the crop of 1859, which also furnished about 180,000 centals that went out in the same year in the form of flour.

It is estimated that the California wheat crop in 1859 was upwards of 1,500,000 centals. It is known that the receipts of flour and wheat at San Francisco in that cereal year were equivalent to 1,258,000 centals wheat.

From an estimated crop of at least 75,000 short tons in 1859, with few exceptions, there was a steady increase

thereafter for many years. The receipts in wheat equivalents at San Francisco may be cited in confirmation of that statement. These receipts for 1859-60 were equal to 62,900 short tons, while in four out of the six following cereal years they varied from 107,000 to 137,000 tons.

The two exceptions in that interval were 84,000 tons for 1861-2 and 27,000 tons for 1864-5. The very small receipts in that year were due to the almost complete failure of the crop in 1864, incident to the light rainfall, 1863-4.

The crop for 1865 was the largest produced up to that time. In those early years the rainfall had much to do with the making of the grain crops. In later years, irrigation has largely offset the dangers of the dry winter.

Since 1878 the wheat crop of California has been more carefully prepared, being based on the quantity of flour and wheat exported, the amount reserved for seed and the local consumption per capita of population. It is claimed, and perhaps rightly, that the results obtained in that way are much more accurate than the Government reports.

From 1878 to 1892, both years inclusive, a period of fifteen years, the California wheat crop exceeded 1,000,000 tons in eight of those years, while in six of the other years it varied from 850,000 to 990,000 tons. In 1885, the only other year in that interval, it was reported at 743,000 tons.

The record crop was that of 1880, when the yield was 1,707,500 tons, while in the following year it was 1,359,000 tons, and two years later it was 1,441,500 tons. Those years were the best in the history of this cereal. There has been no one million ton crop since 1892, and in 1905 the yield was the smallest since 1865.

So long as the wheat acreage in California yielded well, and remunerative prices were received by the growers, there was some inducement to cultivate that cereal. But as soon as other uses for the land became more profitable,

wheat culture was practically abandoned. That was the only sensible course to pursue.

From the daily purchases in the early years by one of the San Francisco millers, it is learned that in 1859 for good to choice milling wheat he paid from $2.87 in March to $1.38 in November. In the following year the range was $1.80 to $1.25, and in 1861 it was $1.90 to $1.37. Wheat was less plentiful in 1862 and the extremes were $2.55 to $1.55. There was a larger crop that year, and the range for 1863 was $1.80 to $1.30. While in January, 1864, he was able to buy at $1.40, the price thereafter rapidly advanced, owing to the failure of the crop that year, and the range for the last six months was $3.10 to $4. Before the next crop matured he paid $5 for wheat, both in March and April. In the following August, when the new crop became available, he was able to satisfy his wants at $1.70. In 1865 he paid from $2.25 to $1.45 per 100 pounds for the wheat needed that year.

When the price of wheat fell below one cent per pound California ranchers concluded that they would try some other form of cultivation. The fact that wheat has since been selling at $1.50 and upwards has little attraction to them.

Destinations of Flour Exports.

San Francisco began exporting flour before it had ceased importing it, and before it began to export wheat. The first shipments of flour were made as early as 1856. In that year these exports embraced 4,200 barrels to China or Hongkong, 1,400 barrels to Honolulu, 900 barrels to Mexico and 63,400 barrels to Australia, making a total of nearly 70,000 barrels for that year, a pretty good record in the eighth year after the discovery of gold.

However, the shipments for the next three years were only 20,800 barrels, and to the same destinations. Austra-

lia took the bulk of the shipments in 1856, but only 1,700 barrels in 1859, and not a single barrel in the two intermediate years.

In 1860 Japan took a small consignment of California flour, and 36,400 barrels were sent to Great Britain. Later other countries were listed as customers for California flour. These embraced Central and South America, New Granada, British Columbia, Asiatic Russia, Philippine Islands, Society Islands, Brazil and domestic Atlantic ports.

From 4,200 barrels flour sent to China or Hongkong in 1856, this trade with those destinations increased irregularly until 1902, when the total exceeded 620,000 barrels. That was the record year in this movement. But for the competition from Oregon and Washington, the movement toward that total would have been more rapid, and the total for that year would have been much larger. In 1906 these shipments to China were only 138,000 barrels, and in the cereal year of 1909-10 only 3,500 barrels. In the last two calendars the shipments to China were 48,000 and 42,000 barrels, respectively.

Great Britain has been the next best customer for California flour. For nearly a half century that country has been taking supplies of this character without a single break in the annual demand, except in the year 1865, when, because of the drouth of the previous year, the price of the article in the San Francisco market was above the export limit.

In the first ten years of this movement the shipments to Great Britain were 251,400 barrels. In 1870 and 1872 the exports were only 8,000 barrels, but for the decade ending with 1879 they were 1,417,000 barrels.

The movement culminated with the decade ending with 1889, when the total was 4,468,850 barrels, or an average

of 446,000 barrels per annum. The record yearly total was made in 1883, when the exports were 744,800 barrels.

In the very next decade there was a marked shrinkage in this movement, the total for 1890 to 1899 being only 1,694,400 barrels. For the following five years the exports were 217,000 barrels, and that ended the business.

The best third customer for California flour has been Central America. There has been no break in that trade from the start, and it began very early. The yearly exports have never been as large as in the other two sources of demand previously mentioned, but it has been unremitting, varying from a few thousand barrels up to 100,000 in 1889, and since that year from 100,000 to over 200,000 barrels per annum. The total for 1912 was 243,600 barrels.

Considerable California flour has been shipped to several other destinations. The Hawaiian Islands took 660,000 barrels between 1874 and 1893. In the same interval British Columbia took 88,400 barrels; Mexico, 92,600 barrels; Panama, 287,100 barrels; Society Islands, 204,600 barrels; Russian Asia, 177,800 barrels; Philippine Islands, 100,500 barrels, and several smaller markets, 109,600 barrels.

Australia took 63,400 barrels in 1856 and 55,400 barrels in 1861, but the total up to and including 1855 was only 186,300 barrels. In 1866, owing to a failure of the crops in the Colonies, the shipments were 119,600 barrels. Again, in 1896, and for the same reason, the total was 263,000 barrels. In ten of the intervening years the annual exports to the Colonies varied from 2,500 to 40,000 barrels.

During the two decades ending with 1893, South America took 337,500 barrels. This total includes 115,300 barrels in 1891. The next important movement in that direction began in 1899 and continued for three years, during which the shipments were 309,000 barrels.

In the years 1867 and 1868 California shipped the large

total of 386,000 barrels flour to domestic Atlantic ports, a small portion going by steamer via Panama at a high freight as compared with consignments by sail.

Some idea of the magnitude and value of the export trade in flour by the water routes may be obtained by the statement that in twenty years ending with 1893 these shipments were 17,317,300 barrels, valued at $78,462,200. A statement of the annual exports of flour from San Francisco since 1860 will be found elsewhere.

Destinations of Wheat Exports.

There was much better success in the wheat movement with the European markets. The hard wheat of California was just what the English millers wanted, and for some years it commanded a higher price than consignments from other sources.

As far back as memory can recall, Great Britain has been the world's best customer for foreign wheat, because of the inability to raise enough for its own wants, despite the liberal use of fertilizers. The appreciation accorded to California wheat by the English millers was all the assurance needed to stimulate production to the utmost limit. The only drawback was the long haul against producers nearer the Atlantic seaboard. But it was water carriage all the way from San Francisco, against a combination of rail and water on the other side of the country, at least during part of the year.

At first it was thought there might be some difficulty in attracting enough ships to San Francisco to insure reasonable freight rates on the wheat cargoes to go forward. The want of coal in California, while a hardship to some, was a great benefit to the California wheat raiser, as it brought many vessels so laden to San Francisco direct

from Europe or by way of Australia, to load back with grain.

California shipped very little wheat to Great Britain, or any other European country, prior to 1860. In that year, however, it shipped 458,500 centals to Great Britain, and from that time on the movement was uninterrupted until the last few years.

From 1861 to 1865, both years inclusive, these shipments to that country were 2,728,400 centals, including 1,022,600 centals in the first of those years and 31,200 centals in the last year. The light movement for that year was due to the failure of the crop in 1864.

In 1866 these shipments embraced 1,048,200 centals, valued at $1,830,500, to Great Britain, and 24,862 centals, valued at $40,436, to France. That was the first cargo sent to France, but it led to considerable shipments in the subsequent years, both to that and other European countries.

As many of the grain cargoes cleared from San Francisco from that time on were headed for Cork for orders, with the option of any port in the United Kingdom or the Continent, it is impossible to segregate those European shipments of California wheat, and no attempt will be made to secure that result.

In 1869 these shipments were 4,785,900 centals, valued at $8,359,100, and in 1870 they were 4,124,800 centals, valued at $7,668,500. Because of the light yield in 1870, the exports for the following year were only 945,000 centals, valued at $2,201,000.

Good wheat crops were raised in the next few years, and this resulted in greatly increasing these exports. In 1872 the total was 6,012,400 centals, valued at $10,568,600, and in the following year 9,155,000 centals, valued at $18,648,500. Attention is called to the high price at which

these exports were manifested. If such values could have been maintained in the subsequent years, there would have been no occasion for the diminished yield in later years.

The large wheat crops in California in 1880 and 1881 were followed by correspondingly large exports to Europe, the movement aggregating 19,916,200 centals in 1881 and 18,362,000 centals in 1882, or 38,278,200 centals for the two years, or 9,000,000 centals in excess of any previous two years.

Since the culmination of this movement in those two years the yearly exports to Europe have varied from a little less than 9,000,000 centals in 1887 to about 17,000,000 centals in 1891. The total movement for two decades ending with and including 1893 were over 230,000,000 centals. The previous shipments from 1860 to 1873, both years inclusive, were over 35,600,000 centals. Since 1893 the annual exports have been invariably under 10,000,000 centals, and since 1904 they have been less than 400,000 centals, and in one of those years they were only 24,400 centals. From 1894 to 1911 they were nearly 68,000,000. From 1860 to 1911, both years inclusive, California sent 333,346,700 centals wheat to Europe. In 1912, less than 20,000 centals wheat were shipped from San Francisco to all ports.

Apart from these shipments to Europe, California has sent out the remainder of its surplus wheat in various other directions as opportunities have occurred. The principal sources so supplied are Australia, South Africa, China and Japan, and the Eastern Atlantic States.

Shipments were made to Australasia as early as 1856, and from that year to 1873 the total was 2,141,000 centals. The largest quantity for any one year in that interval was 612,000 centals in 1866. From 1874 to 1893, the total was 840,000 centals, and since then these shipments aggregate

3,649,000 centals, making a grand total of 6,630,000 centals to the Colonies.

South Africa usually draws its wheat supplies from Australia, but when there has been a failure of the crops there, the orders have been forwarded to the Pacific Coast, and California has filled such orders to the extent of 3,702,600 centals.

The first shipments to China were made in 1859. The total exports to China and Japan have never been large, though in 1866 they exceeded 200,000 centals.

In 1865 there were shipments of 366,800 centals to domestic Atlantic ports, and these were maintained regularly for several years, and in the year 1868 they exceeded 1,000,000 centals.

Several other markets have been supplied with small consignments more or less regularly.

This export trade in wheat has added many millions of dollars to the wealth of the State.

Large Producer of High Grade Barley.

The cultivation of barley in California under American labor probably began as early as 1850. It is known that there were exports of the cereal as early as 1856, and possibly much earlier than that. A consignment of 4,300 sacks to South America in 1856 is of record, and that trade was regularly maintained for the six subsequent years, and amounted to a total of 197,600 sacks for the seven years. In five of the subsequent years prior to 1874 these shipments to the same destination were 455,400 sacks. In 1912 the quantity was 126,200 centals.

Barley shipments to Australia began in 1857, and from that time to 1873, inclusive, these shipments amounted to 1,513,000 sacks.

New York took very kindly to California barley as early

as 1857, when 97,700 sacks were sent to that port by the water route, and in the same way and to the same port prior to 1874 the shipments were 867,200 sacks. Barley shipments to Eastern points by rail began in 1873, and were continued with much regularity for many years afterwards. In more recent years this overland movement has been less regular, but in the aggregate it has amounted to a considerable quantity. The shipments to Eastern points by the water route since 1874 have been even less regular and smaller. From 1874 to 1907 the shipments by water to the Eastern States were less than 700,000 sacks, and of this quantity 593,700 sacks went out in 1901. In 1907 the shipments east by water were 191,600 centals, followed in 1910 by 252,200 centals, and in 1911 by 2,217,600 centals. In 1912 the quantity so shipped was 464,400 centals, valued at $868,000.

Great Britain showed little interest in California barley until 1873, but since then her maltsters have not let a year go by without ordering liberal quantities. This is all the more remarkable because of the prominence of Canada as a raiser of barley of good quality and in large quantity.

The total shipments of California barley direct to Europe prior to 1873 were only 21,500 centals. In the next five years the shipments were 330,000 centals. From 1878 to 1887, the shipments to Europe were 1,736,300 centals. In the next decade they were 13,973,500 centals, and in the following decade, the total was further advanced to 21,930,900 centals. Since 1907 these yearly exports have been 2,271,400 centals in 1908, followed by 1,682,700 centals in 1909, and for the next two years 3,681,900 centals and 1,507,300 centals, respectively. In 1912 the barley shipments to Europe were 1,897,000 centals, valued at $2,960,500.

Apart from Great Britain, Australia and South America,

the next largest shipments have been to the Hawaiian Islands, and for feed purposes. Including small quantities sent to other Pacific islands, the total to all these islands from 1858 to 1887, a period of thirty years, was only 126,600 centals. In the very next decade these shipments to the same sources were 1,441,500 centals and in the following decade 3,602,700 centals. For the four years ending with 1911 they were 1,528,700 centals. In 1912, the total was 277,000 centals, valued at $481,600.

California is justly proud of its barley record. It stands unrivaled in American history, both as to quality and quantity, and was given the silver medal at the recent Brewers' Exposition. Its Chevalier variety has no superior in the world, always commanding a higher price than the best known brewing quality. There has never been any difficulty in disposing of all the Chevalier barley raised in the State. This is also true of the best brewing descriptions. The demand for feed kinds in some years has been less urgent. However, the surplus carried over from one crop into that of the succeeding year has never been very large.

It is the chief barley State in the country, no other State equaling it in the volume of product, unless it be Minnesota, which in some recent years is claimed to have surpassed it. If the statements of the United States Department of Agriculture in reference to crop reports are as wide of the mark in Minnesota as they are in California, they are of little value. These reports credit California with having increased its barley crop from 12,263,500 bushels in 1898 to 43,400,000 bushels in 1910. It is not known that any Californian ever claimed a barley crop of over 1,000,000 short tons for his State. The report of the grain department of the San Francisco Chamber of Commerce reported a crop of 517,600 tons for 1911, which was

somewhat smaller than the crop of 1910. It is thought the crop of 1912 was still smaller. The only uncertain element as to the correctness of these totals is the quantity set apart for local consumption.

The price of barley has much to do with its culture in California. In other sections of this country, and in some parts of Canada, where grain land is not so high, the price of this cereal cuts little figure. This factor was used with much force in this State when the reciprocity treaty with Canada was under discussion several months ago. The removal of the duty which would have followed in the adoption of that measure, it was claimed, would have put this industry out of business.

California has practically given up wheat raising for export, and since then has given more attention to barley. Any event that would lead to the abandonment of the barley industry cannot be viewed with complacency. So long as a good market can always be found for the best brewing grades of barley, for which California has long been noted, the raising of that cereal should be continued, at least up to the present volume of production.

Considerable prominence is being given to San Francisco as a maritime port, especially in view of the early completion of the Panama Canal. Two things are absolutely essential to complete success in this matter. Vessels must be able to get cargoes for San Francisco, and to find outward cargoes awaiting them here upon their arrival. Barley and wheat are the best outward cargoes for such vessels, and the cultivation of both cereals should receive greater attention.

Other Soil Crops of the State.

The minor grain crops of California have not been neglected to any great degree, and they must not be over-

looked in this review. Among these are corn, rye, buckwheat, oats and beans. In former years some whole or partial cargoes of rye were shipped to Europe with profit. Beans have figured regularly in the exports for many years. In fact, California has been regarded as the second State of the country in bean culture. Lima beans grown in this State have been much sought after. No attempt has been made to extend the crops of corn, oats, or buckwheat beyond the wants of the home market, nor is there any particular reason for doing it.

The hay crop of a State seldom gets much notice in the public press, and yet it is an essential crop, and one of the few crops incident to every arable section of the world. The farm value of the hay crop of the United States in 1911 is given by the Department of Agriculture at $694,570,000. In the previous year it was given by the same authority at $747,769,000. The value of the wheat crop of the United States for the same two years was $543,000,000 and $561,000,000, respectively.

The farm value of the hay crop in California in 1911, as given by the same authority, was $13,352,000. This State has made alfalfa hay quite a feature, and three crops of that kind of hay have been gathered annually from the same acreage. Probably no other crop requires so little attention, and at the same time nets such good returns.

California the Leading Fruit State.

The law of evolution, if not universal and inexorable, is certainly quite common. Gold was California's first leading industry, and it held that place for many years. Grain finally supplanted it, and took the lead. Fruit eventually wrested the laurels from both grain and gold, and assumed first place as the greatest wealth-producing industry of the State. It still holds that place, and is likely to retain it

for some time, despite the prominence attained by the earth oil industry in the last few years and its promising outlook.

In 1870 a leading San Francisco fruit firm prepared a statement of the fruit crops for that year based on the consignments received in San Francisco. This statement included over twenty varieties of deciduous and citrus fruits from every county in the State as then divided, except four.

The gross weight of these consignments of deciduous fruit received in that year was over 31,000 tons, and the prices realized for the same amounted to nearly $2,300,000. The citrus fruit and melons received the same year realized over $92,000.

Even then, the fruit industry of California was looked upon as of some importance by the comparatively few engaged in the business, but it is doubtful if any of them seriously thought it would ever attain the proportions since realized. However, the climax of development is yet in the future.

Prior to the opening of through railway service between the Pacific Coast and the Atlantic seaboard, there was little inducement to develop the fruit industry of California beyond the wants of the State and contingent territory. Such railway service had been in course of construction for some time, and in May, 1869, the last spike in the rails completing such connection between the Union Pacific and the Central Pacific was driven.

It then became possible for the first time to ship ripe fruit across the Continent from San Francisco to New York, and, of course, to all terminal points in the intermediate territory. With these greatly enlarged markets for California fruit, the inducement to expand the business was realized. New acreage was secured and immediately

covered with new trees and new vines. This event had already been anticipated, and before the overland railroad had been in operation a single year, ripe fruit freight was being put aboard cars for Eastern cities. The success of these shipments stimulated further enlargement of the fruit bearing area in the State. Still further enlargement of the industry occurred a few years later in the opening of a second and a third through railway line across the Continent by way of Arizona on the south and Puget Sound on the north.

In 1870, the first full year of the operation of the through railway service with the East, less than 50 tons of fresh fruit was carried out of the State. From that small beginning there has been a steady development, so that in 1910 there was over 200,000 tons of deciduous fruit shipped out of the State over the lines of the Southern Pacific and Santa Fe. From a correspondingly small beginning the shipments of citrus fruit rose to 446,000 tons.

Prior to 1910 the shipments by rail and water were not segregated, but the railways have always monopolized most of the fresh fruit trade. In 1890 the shipments of deciduous fruit were 34,000 tons, together with 34,200 tons citrus fruit. These were the results at the end of twenty years of through railway service. At the end of the next twenty years, or, rather, in 1909, the last year when the rail and water shipments were combined, the totals were 203,000 tons deciduous fruit and 476,000 tons citrus fruit. In 1911 the shipments exclusively by the Southern Pacific and Santa Fe railways were 188,000 tons deciduous fruit and 581,000 tons citrus fruit.

The shipments of dried fruit, exclusive of raisins, by water and rail, were 32,300 tons in 1890 and over 90,000 tons in 1900; and in 1909, the last year of the existence of that combination, they were 155,000 tons. In the next two

years, by rail alone, they were 129,000 tons and 114,500 tons, respectively.

There has been a good excuse for these comparatively light shipments of dried fruit by rail since 1909. The decrease is due entirely to the increased shipments by the water routes, incident to an enlarged and more frequent service, quicker despatch and lower freight charges.

In 1908 the water shipments of dried fruit were 14,940,300 pounds. In the following three years they were 69,000,000 pounds, 81,000,000 pounds and 91,000,000 pounds, respectively. Prunes led in these shipments.

Raisin shipments by rail and water in 1890 were 20,600 tons, and in 1894 they were 47,000 tons. This was the record total in that movement until 1904, when over 54,000 tons were shipped in the same way. The best all-rail shipments were 67,000 tons in 1910.

Canned fruit shipments in 1890 were 40,000 tons by rail and water. The largest yearly total in that way, including canned vegetables, was 104,600 tons in 1907. Since then the rail shipments alone have varied from 71,000 to 85,000 tons.

California has made good progress in the cultivation of many kinds of fruit and nuts. Among the latter are almonds and walnuts. The almond crop has increased in twenty-five years from less than 100 tons to 3,500 tons, and the walnut crop from 50 tons to 12,000 tons in the same interval. These nuts have found ready sale at home and abroad. The shipments by rail and water in 1902 were 11,000 tons, and in 1912 over 12,000 tons exclusively by rail.

In fruit culture California has developed some noteworthy features, both in variety and volume. There is probably no State in the country that can show such an extensive variety, both tropical and semi-tropical. Prune

cultivation is one of her strong features, and has given to the State an international reputation. Her dried prunes have been exported in good volume to all the leading European countries, in some of which prunes are extensively cultivated. These shipments go into the millions of pounds.

From less than 4,000 tons a quarter of a century ago, the prune crop of California has been increased to nearly 100,000 tons. That was the record yield of 1902. Since then the crop has varied from about 40,000 to 90,000 tons. For the past twenty years the prune crop of California has averaged $3,235,000 per annum.

Grape growing is another feature. No other State has so many and such extensive vineyards. These vines furnish great quantities of table, raisin and wine grapes for home use and the export trade, and add millions of dollars of wealth to the State every year. California raisins have captured the country, and there is no longer any need of foreign importations. California can supply the country with all the wine it consumes.

Olive culture is another noteworthy feature of the fruit industry in this State. Its olives and its olive oil have taken high rank and enjoy much popularity.

California produced its first raisins in 1870. The quantity made that year was 1,200 boxes of 20 pounds each. This pioneer effort did not attract much attention. At that time San Francisco merchants did not think much of the enterprise, and rather scouted the idea that foreign raisins would eventually be supplanted by the home article. In another part of this story will be found a statement of the annual product of California raisins.

The California wine industry has had a remarkable development since it was assumed as a mercantile enterprise. Like the olive culture, the beginning was by the Franciscans in the seventeenth century. An olive orchard

was started in San Diego in 1769, and now there are over 1,000 trees in each of the thirty-eight counties from which reports have been received. In 1911 these olive orchards are estimated to have produced from 750,000 to 900,000 gallons olive oil and over 1,000,000 gallons pickled olives.

Wine making in California for private use was made as early as 1774 by the Mission Fathers from the Mission grape. In the early sixties wine making in the State was taken up as a commercial enterprise. Since then there has been expansion and improvement in all departments and in all directions. These changes have had to do with the selection of the right soil, the best variety of plants, the subsequent processes of the juice until the finished article has been put into the hands of consumers.

The vineyards of California are of variable size. The late Senator Stanford had a vineyard in Tehama County of over 3,800 acres, on which there were over 3,000,000 vines. It has been claimed that this was the largest vineyard in the world. California has a noted vineyard, if a single vine can be so designated. This vine was planted by a Mexican woman who died in 1865 at the age of 107 years. The vine was planted in the latter part of the seventeenth century, and has been credited with a yield of from 10,000 to 12,000 pounds of grapes in a single year.

Statistics of the production of California wine for commercial purposes date back to 1866, when the yield was given at 2,250,000 gallons. In 1880 the yield was reported at over 10,000,000 gallons for the first time. Ten years later it was 20,000,000 gallons. That total was more than doubled in 1902, but two years later it was less than 30,000,000 gallons. The yield for 1911 was reported at 49,280,000 gallons, a record total.

A very large amount of capital has been invested in grape raising and wine making in this State. In some cases

this capital covers both branches. There are several quite large wineries in operation, and most of these plants are up to date in every particular. For several years California wine has been held up to a high standard, and is quite the equal of the finest imported brands.

The exports of wine from the State form another part of this story, to be found elsewhere in tabular form.

Recently the business of wine making in California has been put upon a more permanent and profitable basis.

In the production of citrus fruit California has achieved an enviable reputation. The southern counties of the State are clearly entitled to the credit of inaugurating this valuable adjunct to the many other profitable industries for which the Commonwealth has become noted. The same section has ever maintained its supremacy in this trade, though other counties in the central and northern parts of the State have in recent years made considerable progress along the same lines.

From a shipment of 705,000 boxes oranges in the crop year of 1886-7 in 2,200 cars, the trade expanded in ten years to 2,671,000 boxes in 7,682 cars. Seven years later the record was 10,360,000 boxes in 27,000 cars. A yearly average of that quantity has since been maintained, the total for 1908-9 was 12,049,400 boxes in 34,400 cars. It was considerably less in the following year, but the shipments in 1910-11 filled 46,400 cars, a record number, and the following year the movement was about the same.

In lemon culture the progress has been proportionately as good, based on the relative demand for the two kinds of citrus fruit. Less than 4,000 boxes lemons were shipped in 1886-7. Ten years later the total was 460,000 boxes. It was over 1,000,000 boxes in 1900-1. For the past three years the shipments have exceeded 2,000,000 boxes per annum.

In the production of citrus fruit, grapes, raisins and

wine, California occupies a unique position among the forty-eight States of the country.

The canners and the fruit driers have been of great service in conserving the interests of the fruit growers. In these forms they have not only put vast quantities of various kinds of fruit beyond decay, but have made it possible to ship as safely by water as by rail, and at lessened cost for transportation.

As a result of these efforts, California has been able to extend her fruit trade to the remotest parts of the world. Liberal shipments of canned fruits were forwarded to the Orient and Europe many years ago, and this trade has not only been maintained, but has been largely increased as the years have gone by. This has been especially true of the European trade.

The shipments of canned fruit and vegetables to those remote sections of the world have been mainly by water. In the last twenty years such shipments have varied from 400,000 to 1,000,000 cases per annum. In addition, the railways have taken away considerable quantities every year.

The same conditions have been observed in the movement of dried fruits of all kinds, with prunes as the leading feature. While a few years ago less than 100,000 pounds dried California fruit found its way to Europe direct from San Francisco, these annual shipments now figure in the millions of pounds.

According to the United States Census returns for 1910, California ranked first among all the States in the production of canned asparagus, apricots, peaches and pears, and of dried peaches and prunes, and sixth in the production of canned tomatoes. It had a complete monopoly in the production of dried apricots and raisins. In 1909 it produced nearly 86 per cent of the entire American prune

crop and, of course, all of the raisin crop and most of the grape crop. The value of its canned fruits and vegetables in 1909 was $32,914,800, against $6,421,900 in 1889. There were 196 canning and preserving plants in operation in 1909, of which 43 were privately owned, 34 were operated by firms, and 119 by corporations.

The State Board of Development reported the value of the soil crops of California in 1905 at $147,950,000. Two years later the total value of these crops was given at $181,052,100. Four years later, the total value of such products was further raised to $266,221,400. The value of the cereal crops declined from $39,620,800 in 1905 to $33,073,400 in 1907, but advanced in 1911 to over $52,000,000. The hay crop increased from less than $32,000,000 in 1905 to over $42,000,000 in 1911. In the same interval other field crops increased from less than $18,000,000 to over $45,000,000. The vineyard crops increased in the same period from $10,848,000 to $27,031,000. The value of the orchard crops more than doubled in the same time, increasing from $41,637,000 to $86,299,000. The garden truck rose from $6,198,000 to $13,460,500 in six years.

First Beet Sugar State.

California claims the credit of introducing a new industry into the United States in the raising of beets to be manufactured into beet sugar. This was in the sixties. The first factory established for extracting sugar from sugar beets was in Alvarado, Alameda County. The pioneer promoter of that enterprise was Mr. Dyer. The business soon passed beyond the experimental stage, despite the doubts of success entertained by many and the general prejudice to the use of beet sugar which had to be met and overcome. The fact that this movement, which had its start in Alvarado so many years ago, made a good return at the same

place in 1912, is pretty good evidence that the making of sugar from beets is a permanent industry of the country, provided it continues to receive proper protection from foreign sugars. Hereafter the plant at Alvarado will be operated at Meriden, Sutter County, on a much larger scale.

The success of the Alvarado factory soon led to the establishment of other factories in California and in many of the other States. Several of these beet sugaries have been fostered and maintained by people prominent in the production of cane sugar here and in other parts of the world. At first some of these men entertained very strong prejudices to the proposition of making sugar from beets. However, as soon as the experimental stage had been passed their zeal for the new industry was something remarkable.

In confirmation of this change of heart, it is only necessary to say that some of these parties erected in Monterey County, California, the largest beet sugarie in the world. It is the general belief that the cane sugar operators in the United States are largely interested in the production of beet sugar, if not in absolute control.

California took the lead in this industry for several years, both in the number of factories in operation and in the gross product. Later that lead was taken from her by Michigan and Colorado. In the number of factories, Michigan still holds first place, Colorado second and California third. But in gross product, California has been at the front, or very near the front, from the inception of the industry. In 1910 it stood at the top of the list of beet sugar producers. The estimate for 1912 puts it far ahead of any other State.

There were 61 beet sugaries in operation in the United States in 1910, with a gross product of 510,000 short tons of sugar. The eight sugaries in California in that year reported a product of 139,890 tons, against 139,215 tons for

the 17 sugaries in Michigan, and 103,092 tons for the 13 sugaries in Colorado.

A quarter of a century ago California was credited with a product of 2,140 short tons. Its product in 1912 has been estimated at 167,000 tons. California has soils in which sugar beets make the best returns in yield and saccharine. At 5 cents per pound, the product for 1912 means over $16,000,000.

Hop Culture in California.

California has always held high rank as a hop producer. It has been a producer of hops for many years, and the cultivation of the plant has been attended with a variety of experiences from the financial side. In some years the crop has realized very low prices and in other years very high prices. During the years when the prices were on the very low level, much of the area given to hops was abandoned, and in the years when extreme prices were paid, the area under hop culture was suddenly greatly enlarged. Hop raisers who were not swayed by either of these extremes have no fault to find with the average annual returns from their crops.

In the last quarter of a century the hop crop in California has risen from less than 30,000 bales to over 80,000 bales. The smallest return in this interval was 28,400 bales in 1890 and the largest 87,000 bales in 1911.

California hops have always found an appreciative market in the Eastern States of the country and in Europe. The three most prominent hop States of the country, with the exception perhaps of New York, are California, Oregon and Washington. Within the past two years the picking of hops by machinery has been introduced in California, and the new method has been attended with satisfactory results. Renewed interest in the cultivation of hops in this State is being taken in the behalf of Eastern brewers.

California hops took first prize at the recent Brewers' Exposition.

The foregoing review of certain soil crops of California from the grass roots to the tree tops does not by any means cover all of such productions in the State, nor has there been any attempt to fully exploit those that have been mentioned.

To enumerate all of the omitted varieties would make a long story, and cover ground common to many other States.

Until within a few years, not much attention was paid to cotton culture in California. Within the past three years this industry has been brought to a successful stage in Imperial County, in the southern part of the State. Cotton has not only been produced in good quantity in that section, but of superior quality, showing a higher grade than that grown in any other part of the country. Japan stands ready to take all the cotton California can produce, thus assuring an appreciative market.

Within the past two years experiments in rice culture in the northern section of the State have culminated in a pronounced success, and an increased area has been secured for an enlargement of the industry.

The cultivation of dates will be undertaken this year. There are indications that tobacco culture will also be renewed this year. Tobacco was successfully cultivated in the State some years ago, but some fault in the curing of the same discouraged producers. The next attempt in raising tobacco will undoubtedly be successful.

Exports of California flour, wheat, barley and wine, and the packs of raisins and canned goods in one thousand quantities, are given in the annexed table:

MOVEMENTS IN CALIFORNIA PRODUCE

Years	Flour Barrels	Wheat Centals	Barley Centals	Wine Gallons	Raisins 20-lb. Bxs	Canned Goods Cases
1864	436	4,386	677	.....	.....	.....
1865	66	217	151	.....	.....	.....
1866	322	2,263	285	.....	.....	19
1867	522	4,663	68	.....	.....	35
1868	465	4,072	80	219	.....	43
1869	428	5,011	314	479	.....	82
1870	243	4,216	157	611	1	133
1871	232	1,312	12	767	2	187
1872	247	6,071	176	982	4	228
1873	470	9,200	273	846	6	216
1874	529	8,044	652	1,176	9	249
1875	497	7,505	210	964	11	264
1876	508	9,968	500	1,074	19	271
1877	429	4,831	92	1,442	32	206
1878	489	8,070	463	1,800	48	235
1879	519	10,524	863	2,193	65	298
1880	562	9,365	1,075	2,378	75	236
1881	783	20,004	553	2,800	90	473
1882	966	18,737	554	2,931	115	542
1883	1,240	12,952	228	3,168	125	594
1884	1,194	12,158	749	3,526	175	577
1885	1,297	11,849	223	4,260	475	566
1886	1,123	15,824	1,014	5,200	703	675
1887	799	9,065	495	6,579	800	773
1888	826	11,764	1,752	7,310	1,250	1,360
1889	1,130	12,120	993	8,174	1,634	1,421
1890	1,190	13,034	332	9,135	1,900	1,495
1891	1,237	17,149	928	10,700	2,600	1,571
1892	1,115	9,764	1,387	10,815	2,850	1,602
1893	887	11,017	3,009	12,229	4,250	1,419
1894	989	7,234	1,149	13,570	5,150	1,529
1895	950	11,160	1,632	14,600	4,658	1,640
1896	1,175	12,214	3,873	14,522	3,413	1,602
1897	873	9,496	3,250	15,313	4,685	1,943
1898	811	3,975	781	16,735	4,032	2,085
1899	971	3,247	3,136	15,546	3,578	3,003
1900	1,175	7,735	2,698	17,814	4,717	2,776
1901	1,187	9,278	4,415	17,688	3,713	2,677
1902	1,208	8,281	4,076	18,489	5,400	2,253
1903	837	2,758	3,913	19,000	6,000	2,784
1904	811	1,192	2,205	19,130	3,750	2,841
1905	585	185	1,818	19,092	4,375	3,253
1906	412	399	2,644	12,343	4,750	3,125
1907	371	462	2,454	11,600	7,000	3,081
1908	251	153	2,595	12,394	5,000	4,227
1909	233	28	2,041	15,225	7,000	3,060
1910	195	153	4,640	9,882	6,250	4,040
1911	321	406	4,255	14,311	6,500	4,130
1912	416	20	2,807	13,395	6,500	4,500

The Lumber Industry.

This story would be incomplete if it did not contain a reference to an industry that is as old as the world, and indispensable to the welfare of the race. It can hardly be imagined that a treeless earth could be habitable. It is evident that the great Creator and upholder of all things took that view of it, and so made ample provision to meet that want, which is universal and one that apparently will never cease to exist, and for which it is useless to look for an adequate substitute.

One of the great surface assets of America is its forests, which human labor had little to do in creating, but upon which this country and other countries have been making frequent and liberal drafts for centuries. It is impossible to compute the value this source of wealth, which the people had so little to do in creating, has been to the country since the first tree was utilized as a contribution to the comfort or profit of the race.

The uses to which these vast forests have been applied are almost numberless, extending from the character used for firewood to the most finished forms of wood products. The pioneers in the wooded districts, before sawmills were as available as they were later, constructed their habitations from tree logs. In the erection of homes, whether from tree boughs, or logs, or the rough or surfaced lumber, no material has been so generally used as that furnished by the forests.

The western half of the land area of the United States has been particularly favored in the matter of forests of the finest woods. Samples of these woods on exhibition at the Lewis and Clark Exposition at Portland a few years ago were an astonishment and a revelation to the thousands who saw them. It is probable that a similar exhibit will be

made at the Panama-Pacific International Exposition in San Francisco in 1915.

California claims the only redwood forest in the country, and liberal shipments of her redwood lumber and shingles, and even her redwood stumps, have been made to various parts of this country and Europe. The exterior of most of the frame dwellings in the State are of redwood, easily worked, of moderate price and very durable, three economic values not always combined.

The lumber cut in California for the last eight years, according to Government reports, has averaged over one million M. feet per annum, the mill value of the same being given at from $15,000,000 to $25,000,000 yearly. At least one-half of the cut has been redwood.

The estimated wooded area of California exceeds 28,000,000 acres, and at the low estimate of $3 per thousand feet for stumpage, the value of the forest exceeds $500,000,000. Most of this acreage belongs to the National Forest Reserves.

This redwood forest is indigenous to California, and, with the exception of a few stunted trees in Japan, is the only forest of the kind in the world. It extends along the coast about 240 miles, and is from 10 to 20 miles in width. The district originally contained 1,200,000 acres, and is estimated that about 80 per cent. of that acreage is still standing.

The western slopes of the Sierras in California and also in Oregon and Arizona, are covered with various varieties of pine and cedar, the best grades being found on the high elevations.

Very little lumber is shipped from San Francisco, most of the cargoes for foreign ports being loaded at the mill ports on the northern coast. Last year the shipments from

Eureka were over 44,000,000 feet to foreign markets and 40,000,000 feet to San Francisco.

Lumber shipments from Humboldt Bay from 1898 to 1912, a period of fifteen years, were 4,166,219,376 feet, valued at over $76,000,000. This quantity represented 12,474 cargoes, large and small. Over one thousand of these cargoes were cleared for various destinations last year.

Much has been said and written about the big redwood trees in California. Some of these statements may have been overdrawn, but the size of these stumps are certainly wonderful, and the trees are inspiring.

The immense forests in Oregon and Washington have annually added many millions of dollars to the wealth of those States. Oregon stands fourth in the list of lumber producing States. It still claims over 25,000,000 acres in timber, estimated to contain over 496,000,000,000 feet, valued at $680,000,000.

The shipments of lumber from Oregon, Washington and British Columbia to foreign and domestic ports in 1912 were 2,872,000,000 feet. The proportion credited to British Columbia in that total was nearly 53,000,000 feet.

Of the 923,000,000 feet lumber from Grays Harbor in the larger total, over 68,000,000 feet was sent to foreign markets, while of that sent to domestic markets, a considerable proportion was forwarded to interior points by rail.

So far, nothing has been said about the product and shipments of shingles and laths from Oregon and Washington, but both are important adjuncts of the business.

Recently a large order for timber for the making of pencils was filled at one of these northern ports.

The pine and fir trees on this coast attain enormous heights, some of them reaching 250 feet.

The forests in this end of the country are certainly very attractive and very valuable.

OCEAN COMMERCE OF SAN FRANCISCO

California's Part in the World's Commerce.

Thus far this story has been confined to some of the leading productive resources of California from 1848 to 1912. There has been no attempt to cover the entire list, nor to extensively elaborate those that have been named, nor to give to any one the space it justly deserves.

It is now in order to mention some of the sources and character of the supplies the State has been obliged to obtain from other sections of the country, as well as the value of such supplies as have come from foreign countries.

San Francisco was opened to the commerce of the world under conditions quite dissimilar to the opening of any other American port. Surrounding the port on the east, north and south was a vast area of uncultivated land, occupied here and there by a few hundred people, mostly Indians.

Up to that time there was nothing to export except small lots of hides and tallow, and no particular need for food or other supplies from distant ports, and hence no inducement to send cargo vessels to the port. The marine arrivals were few and far between, consisting mainly of naval vessels making their annual tours of inspection on Government account, and whalers that called to get a fresh supply of drinking water before proceeding north or on the way from the north to the Sandwich Islands, as the Hawaiian group was then called.

The discovery of gold in California in January, 1848, wrought a magical change in the whole situation in short order. Events of that character did not occur very often, and at that time advices of even such important events

did not circulate rapidly in the absence of the telegraph wire, the railway, the steamers or the stage coach.

But when the news of such discovery did reach any section of the world outside of the State, there was the wildest kind of excitement on the part of the people to get to the scene. They came in great haste and in droves by the score, by the hundreds and by the thousands, by land and by sea, on foot and on horseback.

These hordes of immigrants to San Francisco brought little with them in the way of food, clothing or other supplies. They were in too much of a hurry to get here to make much preparation for the means of subsistence after their arrival, and freight facilities when they started out were not very good.

But as soon as the stories of the discovery of gold were confirmed, shippers lost no time in sending supplies. Every available vessel on the Atlantic seaboard was pressed into the service to carry passengers and freight to San Francisco. Ships in foreign ports all over the world headed for the Pacific Coast laden with cargoes and passengers.

At first the supplies from domestic Atlantic ports greatly exceeded those received from foreign ports; and this was the condition of the import trade for many years, even after the opening of the all-rail route between the Pacific and the Atlantic coasts.

No value was kept of these cargoes from domestic Atlantic ports brought by sail vessels via Cape Horn. The value of the domestic goods received by the Panama steamers in 1869 was estimated at over $36,000,000 in currency. In the very next year, when the overland route was in competition with the Panama steamers, the value of the domestic goods received by the steamers was less than $11,000,000 in currency.

These consignments by the Panama steamers embraced

a large variety of manufactures of the more costly descriptions.

The weight of the cargoes by the sail vessels from domestic Atlantic ports by way of Cape Horn for the five years ending with 1870 was nearly 1,000,000 tons, including 173,000 tons coal and about 50,000 tons railroad iron. The year in that interval showing the largest traffic was 1869, when the total was 273,500 tons. In the following year, with the railroad for the first time as a competitor, it was only 142,000 tons.

In some of the later years, the railways across the continent have been the successful competitors for many of the coarser and cheaper varieties of freight shipped from the Eastern States to the Coast.

Values of the free and dutiable goods received at San Francisco from foreign sources for each fiscal year since 1848 are given in a tabular statement elsewhere, together with a similar statement of the annual duties collected on such imports.

At least fifty different markets have been drawn upon for these foreign supplies of merchandise and produce.

The Government made no classification of such imports by customs districts prior to 1856. The destruction by fire of the custom house records of San Francisco in 1851 has made it impossible to obtain official reports from 1848 to 1851. But from unofficial sources approximate values of the yearly imports have been secured.

The list of Eastern goods received at San Francisco from 1849 to 1869 embraced boots and shoes, candles, cement, clothing, cordage, dry goods, iron, mackerel, nails, oils, oysters, paper, powder, sewing machines, soap, spikes, starch, tobacco and cigars, turpentine, whisky and other liquors, agricultural implements, machinery, castings, shelf

hardware of all kinds, drugs and chemicals, lumber, carriage materials, furniture, carpets, household goods, etc.

Many of these manufactures were subsequently produced in San Francisco and other parts of California to the full extent of the home demand, and with a large surplus for export. There is hardly a single line of manufactures that has not been attempted in California, and many have since been retained, having been conducted with success from the start.

Expansion of Export Trade.

San Francisco enjoyed a smaller export trade before its import trade amounted to much. In 1851 the export trade reached an estimated value of $1,000,000, three-quarters of which was on foreign account.

Five years later, according to the official record, the total was over $4,000,000, the distribution of which was relatively the same, 75 per cent to foreign ports and 25 per cent to domestic Atlantic ports.

Australia was the best foreign customer in 1856, taking fully 25 per cent of the total, leaving only 50 per cent to be absorbed by the other foreign markets. In the next four years, Australia did not do as well, but in 1861 she regained the position she held five years previously.

Europe figured in the export column for the first time in 1859, with a value of $29,100. France took a value of $7,000 in the same year for the first time.

In 1860 the exports exceeded a value of $8,500,000, the largest total up to that time. This total included over $1,900,000 to domestic Atlantic ports. British Columbia was the best foreign market in that year, taking $1,580,000. Great Britain took a value of nearly $916,000 in the same year, mostly for California flour and wheat. China and Hongkong took a value of $623,300 in the same year, the

largest total in six years. Mexico took a value of $968.000 in the same year

In 1865, the export trade amounted to $14,500,000, the largest up to that year. This total included $6,159,100 to domestic Atlantic ports. Mexico was the best foreign customer in that year, taking $2,093,700. China ranked next, with a value of $1,376,200. In this review China always included Hongkong, the terminus of the steamer route from San Francisco. British Columbia took a value of $1,243,100, though three years previously it had taken $2,195,900. Great Britain took $1,176,200.

In 1870, the exports showed a value of nearly $17,800,000, including $4,300,000 to domestic Atlantic ports. That was the first full year of through railway competition with the water route between the Pacific and Atlantic sides of the country.

In the very next year, owing to the partial failure of the grain crops in the State, the total exports showed a value of only $14,000,000.

Between 1870 and 1875 the value of the export trade was nearly doubled, the total for the last-named year being about $30,000,000.

In 1880, the total was $34,804,900, including $5,362,000 to domestic Atlantic ports. China was a good foreign customer in that year, with a credit of $3,386,500. The Hawaiian Islands also made its best show with a value of $2,136,800, Mexico following with $1,808,100 and the Society Islands with $1,071,600. The shipments to Europe in that year were valued at $17,460,500, including $16,416,900 for flour and grain, or nearly 50 per cent of the total to all markets.

In 1885 the total was over $36,000,000, but only $3,116,800 of that amount was forwarded to domestic Atlantic ports. European countries took $20,587,400 in that

year, China took $3,602,500 and the Hawaiian Islands $2,428,700. The only other countries taking over one million in that year were Australia and Mexico.

In 1890 there was an export value of $39,969,600 recorded, though in three of the previous four years the yearly total had exceeded $40,000,000. Eastern Atlantic ports took over $4,000,000 in 1890 and European countries took $20,437,000. The next largest amount of $4,179,300 went to the Hawaiian Islands. China took over $3,000,000, and Australia, Central and South America and Mexico took over $1,000,000 in each case.

The year 1891 showed a remarkable gain over any one of the preceding years, reaching a total of nearly $54,000,000, including $31,924,600 to European countries. There was a total of $5,372,200 to domestic Atlantic ports and $4,100,000 to the Hawaiian Islands. China took $3,183,800; Central America, $2,365,900; Australia, $1,691,000; Mexico, $1,606,700; and South America, $1,118,400.

In 1892, there was a drop of $10,000,000 in the value of San Francisco's export trade, a further drop of $6,400,000 in the next year, and a still further drop of $7,400,000 in the following year. The decrease in those three years was $27,470,000, or over 30 per cent.

California was not wholly to blame for those three lean years in San Francisco's export trade. They were largely due to the bank panic of 1893, a trouble that had been expected for some time as the result of the inflated currency caused by the compulsory coinage of standard silver dollars. Had the advice of California's soundest financiers been heeded that panic would not have occurred, at least not in that way and at that time. Cleveland was elected President of the United States in 1892. He appreciated the danger from the silver inflation, and lost no time in sus-

pending further purchases of fine silver to be made up into dollars. This action, however, came too late. The disease had gone too far and was too general to be cured in that way. It was necessary to readjust business along new lines, and that could only be done by a course of heroic treatment.

California stood up under that treatment much better than most of the other States. She had never forgotten that a dollar meant the equal of one hundred cents in gold and that paper dollars or silver worth anything less were not dollars in her estimation. This stand for sound money, adopted at the very outset and steadily maintained from the start, will forever rank as one of the brightest and most enduring acts in the history of California, the only and thoroughly golden State of the country.

This downward movement in the export trade of San Francisco was checked in 1895, when the value of the exports was given at $33,375,100, of which $3,892,000 was for produce sent to Eastern States by the water route, Great Britain took a value of $14,758,000; Hawaiian Islands, $3,400,000; China, $2,327,000; Japan, $1,835,000; Central America, $3,191,000; and Australia, $1,135,000.

The total for 1900 was $46,945,000. This includes $3,432,000 for Eastern ports and $10,631,000 for the Hawaiian Islands. The islands became American territory in 1900 and for the last five and one-half months of that year, and because of that fact, the Government officers made no record of the exports to the islands. This omission is supplied in the above total. Great Britain took $13,874,500 in the same year; China, $4,687,000; Japan, $2,743,800; Australia $2,024,300; Mexico, $1,675,500; Central America, $1,623,500; South America, $1,100,000; and British Columbia, $1,023,200.

In 1905 this trade exceeded a value of over $63,000,000,

the largest total up to that time. This includes over $4,000,000 for Eastern States and $11,027,500 for the Hawaiian Islands, leaving nearly $48,000,000 for foreign countries. The shipments to Asia that year were unusually large, amounting to $31,634,000. Shipments to Europe were cut down to $4,553,800. To Australia and other Pacific islands the total was $4,977,700, and to British Columbia and other North American markets the amount was $5,752,400. The remainder went to South America and other sections.

There was a marked reduction in this trade in 1906, incident to the unparalleled disaster in the Spring of that year, the total falling under $40,000,000.

Since then there has been a steady increase from year to year. In 1910 the total again exceeded $63,000,000, and a new record was thus made. This total includes $11,553,800 to domestic Atlantic ports and $14,913,800 to the Hawaiian Islands. The remainder was distributed among foreign markets. There was a value of $11,432,600 to European countries, of which $8,136,300 was for Great Britain, while most of the remainder was distributed in Germany, France and Belgium. There was a value of $9,048,400 to Japan and $1,463,300 to China. Australia took $1,536,600; New Zealand, $654,700; British Columbia, $1,697,500; Philippine Islands, $4,860,800; while Mexico, Central America and South America each took over $1,000,000.

The trade for 1911 was $20,000,000 larger than in the previous year, the total approximating $83,490,000. This is a record that was not dreamed as possible at the beginning of that year, and certainly very far from the expectations of the most optimistic a few years ago. The value of the goods sent to domestic Atlantic ports in that year was $23,493,700, the largest ever reported, and more than double the amount for the previous year, which was

the best up to that time. The total to the Hawaiian Islands in the same year was $14,956,200, a slight increase over the previous year.

Segregating these amounts from the total for the year, leaves a value of $45,039,800 for the trade with foreign ports, an unusually large amount. Of this total, $13,241,700 was distributed among various European countries, largely in the way of canned and dried fruits, salmon and barley. China and Japan took a value of $15,185,000, in which cotton figured to a large extent, together with California petroleum. The Philippine Islands took a value of $4,533,000. A value of over $5,000,000 was distributed in Mexico, Central and South America and Panama. Australasia took a value of $2,909,000 and British Columbia $2,350,000.

It was thought that the phenomenal record in the export trade of San Francisco in 1911 would stand for some time. The crops that year were generally good and the prices received for the surplus sold for shipment were rather above the average of several preceding years. It was a year of unusual activity in the ocean transportation lines, especially those taking through freight to the Eastern States. This competition undoubtedly took some freight from the overland railways.

Lower prices for some products in 1912 made it necessary to increase the volume of the ocean export trade to even duplicate the value of the previous year's total. It is a pleasure to note that this has been done, even to a much larger extent than was expected by the most enthusiastic well wishers of San Francisco.

The continued competition on the Panama route in 1912 did much to swell the volume of the export trade of the port in that year. In addition, the fruit and other crops furnished an increased surplus available for export.

As a result, the value of the deep water shipments

through San Francisco to all ports in 1912 amounted to the magnificent sum of $91,670,000, an increase of more than $8,000,000 over the previous high record.

This total for 1912 includes $18,583,600 to domestic Atlantic ports, via Mexico and the Isthmus of Darien, and $18,149,000 to the Hawaiian Islands. The Government officials do not include these totals, because they come under the head of domestic trade.

Deducting those amounts, there is a total of $54,937,000 for the foreign trade of the port for that year, which is nearly $10,000,000 larger than for the same trade in the previous year.

Of the nearly $55,000,000 shipped to foreign ports in 1912, Japan and China took about $21,700,000, of which total nearly $13,000,000 was for cotton raised in other States and sent to San Francisco for reshipment. This was the largest total for shipments of that kind from this port to the Orient, and shows an increase of $4,268,400 over the previous year.

The shipments to Europe in the same year were valued at $12,429,000 and consisted largely of canned and dried fruit, barley and canned salmon.

IMPORTS, DUTIES AND EXPORTS

Following is a statement of the values of the imports into and the exports from San Francisco, exclusive of treasure, the former being for the fiscal years and the latter for the calendar years. The totals are for one thousand dollar amounts:

Fiscal Years	Imports, Foreign			Import Duties	Exports	
	Free	Dutiable	Total		Foreign Ports	Domestic Ports
1848	$ 100	$ 400	$ 500	$ 200	$ 375	$ 125
1849	120	480	600	240	488	162
1850	180	720	900	360	638	212
1851	250	1,000	1,250	500	750	250
1852	250	1,000	1,250	500	1,125	375
1853	350	1,400	1,750	700	1,500	500
1854	500	2,000	2,500	1,000	1,875	625
1855	700	2,800	3,500	1,400	3,143	1,047
1856	1,243	5,235	6,478	1,675	3,157	1,113
1857	719	5,258	5,977	1,507	2,212	2,158
1858	731	5,784	6,515	1,600	3,486	1,284
1859	1,517	6,147	7,664	2,250	4,115	1,418
1860	1,250	6,120	7,370	2,200	6,598	1,934
1861	1,462	5,753	7,215	2,300	8,185	1,703
1862	1,272	4,502	5,774	1,500	7,113	3,452
1863	352	7,574	7,926	2,300	8,635	4,242
1864	650	10,199	10,849	5,970	8,206	5,166
1865	733	9,601	10,334	6,705	8,395	6,159
1866	941	13,000	13,941	7,190	12,106	5,176
1867	950	13,450	14,450	7,200	15,737	6,684
1868	320	15,365	15,685	8,031	14,246	8,598
1869	152	14,966	15,118	8,273	15,234	5,612
1870	535	15,448	15,983	8,598	13,481	4,289
1871	2,699	13,279	15,978	7,151	10,138	3,854
1872	4,102	23,121	27,222	7,838	18,135	5,564
1873	13,617	19,063	32,680	8,034	27,629	2,712
1874	11,663	15,072	26,735	7,712	23,736	3,707
1875	9,571	15,107	24,678	8,136	25,970	3,947
1876	14,402	14,034	28,436	7,817	28,033	3,023
1877	17,138	12,508	29,646	7,304	24,200	5,715
1878	15,922	10,654	26,576	6,278	28,855	5,300
1879	18,032	11,080	29,112	6,092	31,464	5,100
1880	25,686	9,535	35,221	5,561	29,442	5,362

IMPORTS, DUTIES AND EXPORTS

Following is a statement of the values of the imports into and the exports from San Francisco, exclusive of treasure, the former being for the fiscal years and the latter for the calendar years. The totals are for one thousand dollar amounts:

Fiscal Years	Imports, Foreign			Import Duties	Exports	
	Free	Dutiable	Total		Foreign Ports	Domestic Ports
1881	$26,391	$11,552	$37,943	$ 6,098	$48,285	$ 5,426
1882	26,473	14,529	41,002	8,276	50,194	5,558
1883	27,978	17,724	45,702	10,094	42,011	3,756
1884	23,699	12,159	35,858	6,751	34,305	2,940
1885	22,351	12,689	35,040	6,539	32,986	3,117
1886	26,820	10,322	37,142	5,764	37,148	3,054
1887	28,202	12,506	40,708	6,474	29,276	6,689
1888	29,755	16,928	46,693	8,712	34,441	6,384
1889	31,258	17,168	48,426	9,410	35,241	6,010
1890	32,340	16,411	48,751	8,171	35,897	4,072
1891	34,276	16,667	50,943	7,649	48,515	5,372
1892	32,674	14,372	47,136	7,660	31,698	8,549
1893	32,521	12,770	45,291	7,295	29,117	4,736
1894	26,665	11,451	38,146	5,686	22,599	3,815
1895	25,252	11,018	36,270	5,328	29,483	3,892
1896	29,823	11,577	41,440	5,401	40,548	3,008
1897	24,000	10,376	34,376	5,198	41,139	3,960
1898	31,813	11,010	42,823	5,271	32,891	3,216
1899	23,368	12,379	35,746	6,475	35,035	3,276
1900	33,722	14,147	47,869	6,909	43,513	3,432
1901	19,237	15,925	35,162	7,346	37,553	15,270
1902	19,521	15,582	35,103	7,412	38,220	15,455
1903	19,561	16,893	36,454	7,712	32,966	16,614
1904	22,160	15,382	37,542	7,305	38,957	14,187
1905	31,450	15,225	46,675	7,299	47,979	15,369
1906	28,706	15,728	44,934	7,283	24,148	15,471
1907	32,104	21,990	54,094	9,878	30,563	14,837
1908	30,231	18,020	48,251	7,322	31,201	15,660
1909	36,413	13,585	49,998	6,406	30,807	23,545
1910	35,254	14,097	49,351	6,396	36,424	26,938
1911	37,781	16,104	53,885	6,973	44,583	38,907
1912	44,421	14,812	59,233	6,842	54,937	36,733

The values of the imports have been taken from the Government reports, and are for the fiscal year ending June 30, 1848, and so on to June 30, 1912, while the values of the exports are for the calendar years beginning with 1848 and ending with 1912. Since June 14, 1900, the Hawaiian Islands have been American territory, and all the imports from the islands since July 1, 1900, have been eliminated from the total imports at San Francisco, as given in the above table.

Beginning with the calendar year 1901, all exports from San Francisco to the Hawaiian Islands have been classed as domestic exports, and placed in the same column as the water shipments to Eastern Atlantic States, whether by Cape Horn, the Straits of Magellan or via Panama, on the Isthmus of Darien, or via Salina Cruz, in Mexico. Previous to 1901 the exports to the Hawaiian Islands were included with those sent to foreign ports.

It is well to bear these facts in mind in any study of the import and export trade of San Francisco, as set forth in the foregoing statement. The Government gives import and export statements of trade with the Hawaiian Islands since it became American territory, but under the head of non-contiguous territory. However, these statements are not by customs districts, and are therefore of little use in this connection. For the last five fiscal years the imports from the Hawaiian Islands have averaged $43,000,000 per annum, of which at least $18,000,000 per annum should be credited to San Francisco.

SOURCES OF SAN FRANCISCO IMPORTS

Imports by decades at San Francisco from 1864 to 1912 will be found annexed in one thousand dollar amounts:

From	1864–1873	1874–1883	1884–1893
Great Britain	$ 42,639	$ 42,803	$ 42,705
Other Europe	25,588	16,159	29,851
South America	14,025	3,887	3,338
Central America	11,510	25,457	33,268
China	27,371	48,619	60,079
Japan	8,738	23,691	90,879
Philippine Islands	5,584	1,735	7,994
Hawaiian Islands	9,820	38,464	104,174
Other Pacific Islands	2,304	2,000	2,562
Australasia	3,140	8,910	12,801
British Columbia	2,855	3,900	15,216
Other Countries	6,450	7,284	22,868
Totals	$160,024	$222,909	$425,735

From	1894–1903	1904–1912	1864–1912
Great Britain	$ 25,799	$ 18,501	$ 172,447
Other Europe	33,590	51,415	156,603
South America	7,780	16,886	45,916
Central America	32,304	32,837	135,376
China	65,200	66,351	267,620
Japan	94,698	191,377	409,383
Philippine Islands	2,979	13,787	32,079
Hawaiian Islands	102,278	131,000	385,736
Other Pacific Islands	3,468	4,933	15,267
Australasia	7,949	7,958	40,758
British Columbia	20,612	11,606	54,189
Other Countries	25,707	40,756	103,065
Totals	$422,364	$587,407	$1,818,439

The foregoing statement covers the last 49 years of San Francisco's import trade. The second of these decades shows an increase of nearly 40 per cent over the first decade, while the third decade shows an increase of 91 per cent over the second, and 162 per cent over the first. One reason why the imports for the fourth decade were less

than for the third decade was due to the country-wide bank panic of 1893, from the effects of which general business did not recover for at least four years. The imports for the last nine years of the above period show an increase of nearly 38 per cent over the previous ten years, and is the best record yet made.

Destinations of Produce Exports.

San Francisco has been exporting produce and merchandise to various parts of the world for sixty-five years. A score or more of countries have been the recipients of this trade. The value of this trade by the deep water routes during that interval exceeds two billion dollars. To bring the details of this trade within the grasp of the mind of the reader, the following condensed form has been adopted, showing the volume of the business by decades to the principal sections of the world, as follows, in one thousand dollar amounts:

Decades	Europe	Orient	West Coast	Pacific Islands	Other Foreign	Eastern States
1848–57	.....	$ 1,504	$ 6,521	$ 6,517	$ 718	$ 6,569
1858–67	$ 20,074	11,473	20,963	13,348	16,199	37,739
1868–77	126,345	26,874	24,145	14,433	9,004	47,020
1878–87	232,266	46,187	29,949	42,236	13,333	46,304
1888–97	192,967	44,357	43,109	58,346	9,868	49,335
1898–07	98,573	140,302	44,446	148,668	17,057	40,360
1908–12	54,254	71,141	23,798	108,989	12,438	69,118
Totals...	$724,479	$341,838	$192,931	$392,537	$78,617	$296,445

The last line in the above table is for five years only, whereas the previous lines are for ten-year periods. In these sixty-five years the value of the merchandise and produce shipped from San Francisco to the above destinations is $2,026,847,000.

An explanation of the foregoing grouping of the destinations to which exports from San Francisco have been sent is in order. The column for Europe consists of a score of European countries, the principal ones in the order of service being England, Germany, France, Holland, Denmark, Sweden and Italy. Under Orient are included Japan, Korea, Asiatic Russia, China, Hongkong, India, Siam and the Straits. The West Coast embraces Mexico, Central America, South America and the Isthmus of Darien. Grouped under the head of Pacific Islands are the Philippines, Australasia, Hawaii, Society, Marquesas, and other South Sea islands. Classed as "other foreign" are Africa, British Columbia, West Indies and several other minor markets. Shipments by water to Eastern States includes cities on the Atlantic seaboard and throughout the interior as far west as Chicago, and contiguous cities in adjacent States.

In the tables of imports under the head of "other countries," are included British India, Dutch East Indies, Straits Settlement, Cuba, Mexico, and several other sources of lesser importance. The imports from the Indies and Straits Settlements and Mexico constitute the major portion of the totals classed under the head of other countries.

The imports from 1848 to 1863, both years inclusive, the sources of which could not be definitely traced, were valued at $67,169,000, and, added to the amount for which sources are named from 1864 to 1912, makes a grand total of $1,885,608,000 for the imports into San Francisco from 1848 to 1912, exclusive of domestic goods from the Atlantic States by water and railroads.

GOLD AND SILVER COIN AND BULLION MOVEMENTS

Large Exports of Precious Metals.

San Francisco holds a very high position in the movement of gold and silver metals, both coined and uncoined. No American port, in proportion to population, is believed to have handled an equal value in the same number of years. Few persons have any idea of the magnitude of this movement. A considerable proportion, of course, has been of an interstate character, and no cognizance of such movement is to be found in the Government reports. These only cover such movements between the United States and foreign countries.

Prior to 1856, even in the foreign trade, there was no record of such movements by customs districts, and hence resort has been necessary to other sources for such information as to the movement between this port and foreign ports, and also between this port and other domestic ports, both on the Atlantic and Pacific Coast. The writer has been at some trouble to secure such information in order that San Francisco may have due credit for what it has done in this matter.

As California has produced a larger amount of gold than any other State, and as nearly all the gold and silver produced in the country has come from the States west of the Rocky Mountains, the position of San Francisco in the handling of these metals has been unique. The United States Mint in the city since 1854 and the large private refineries have been important factors in attracting these metals to San Francisco from adjoining States and Territories.

Upon personal application to the Treasury Department

at Washington, a special report was prepared for the writer, showing the movement of gold and silver between foreign countries and San Francisco by fiscal years, commencing with July 1, 1855.

Unfortunately it was found impossible to separate the gold from the silver in the first eight of those fiscal years, either in the coin or bullion form, as to exports. The total exports from San Francisco to foreign countries for that interval were $3,362,870 in coin and $48,722,798 in bullion. As there was little silver produced on this Coast prior to 1860, most of the above $52,085,700 must have been gold, and all of it of domestic production.

The Government did not incorporate foreign specie in its exports from San Francisco until about 1884. The imports and exports of specie from San Francisco, as taken from Government reports by fiscal years, from July 1, 1855, were as follows, in one thousand dollar amounts:

Decades	Imports			Exports		
	Gold	Silver	Total	Gold	Silver	Total
1856–65	$ 15,758	$38,204	$ 53,962	$100,552	$ 2,044	$102,596
1866–75	27,997	77,340	105,337	60,772	49,353	110,125
1876–85	25,395	46,106	71,501	7,639	90,763	98,402
1886–95	48,565	29,171	77,736	11,026	132,700	143,726
1896–05	183,822	29,459	213,281	17,775	77,041	94,816
1906–12	41,748	17,703	59,451	41,759	50,626	92,385
Totals...	$343,285	$237,983	$581,268	$239,523	$402,527	$642,050

These totals, both of imports and exports, are incomplete in these two particulars, namely: The imports do not include the receipts of foreign coin and bullion by railways into San Francisco, nor the exports of foreign coin and bullion from San Francisco. Mexico and Canada have sent large amounts of specie into San Francisco ever since

the establishment of the railway service, making such shipments in that way possible. As there has been no tax imposed on specie from foreign sources, consignments by the railways have not passed through customs channels. The writer kept a record of these imports by railway from Mexico for many years, and the annual receipts were from $5,000,000 to $10,000,000. It was no part of the Government officers to take cognizance of such imports by rail. If these were added to those received by the water routes and entered at the custom house, the total in the foregoing table would be very much larger.

The omission of foreign specie in the exports from San Francisco in the Government reports until about 1884 is unfortunate, as the amount of such foreign specie shipped from the port up to that time was considerable. From 1854 to 1866, both years inclusive, the specie shipments from this port to Hongkong and China were $46,227,000, mostly in Mexican dollars. From 1867 to 1874 the treasure shipments from San Francisco to China were $52,505,000, and to Japan $18,600,000. The proportion of foreign specie in these totals is not known, but it was considerable. From 1875 to 1884 the shipments of Mexican dollars to China were $30,800,000.

The facts given in the previous two paragraphs will prepare the reader for the more extended and the more complete statement of the treasure movements of San Francisco that has been specially prepared as a part of this story, showing the shipments by calendar years, not only to foreign ports, but to other points in the United States outside of the boundaries of California.

Prior to the opening of the first through railway from the Pacific seaboard to the Atlantic seaboard in May, 1869, nearly all the gold and silver sent out of the State took

the water routes, and was checked up at the custom house or at the shipping offices.

Railway reports of treasure shipments from San Francisco to New York and other Eastern cities were received weekly from 1869 to 1875, and afterwards monthly until 1902, when that courtesy was withdrawn. Such shipments, it is believed, have since been continued, but in much smaller annual amounts, as large remitters have availed themselves more frequently of the facilities of the subtreasury for such purposes.

In the last eight months of 1869 these railway shipments were $6,646,200. In 1870, the first full year of the operation of the railway, the shipments of treasure to the East by that route were $14,355,800, of which $5,528,000 was in coin. This is what the railway diverted from the Panama steamers. In 1871 these railway shipments were only $8,562,800, of which $5,919,500 was in fine silver, $2,532,000 in fine gold, and $111,200 in gold coin. The reason assigned for this falling off from the previous year was the more general use of the mails.

DESTINATIONS OF TREASURE SHIPMENTS

Following is a complete statement of the shipments of gold and silver coin and bullion from San Francisco, exclusive of the amounts sent through the mails and of the amounts sent by rail since 1902, in one thousand dollar amounts:

Years	Dom. Atlantic	Europe	Orient	West Coast	Elsewhere	Total
1848	$ 2,000	.....	.....	.....	.....	$ 2,000
1849	3,000	$ 1,000	.....	$ 921	.....	4,921
1850	24,000	2,000	$ 676	1,000	.....	27,676
1851	34,000	4,000	583	4,000	.....	42,583
1852	40,000	4,000	586	2,000	.....	46,586
1853	50,000	4,796	535	2,000	.....	57,331
1854	46,533	3,781	966	205	$ 561	52,046
1855	38,731	5,182	890	231	128	45,162
1856	39,895	8,666	1,309	253	574	50,697
1857	35,532	9,348	2,993	411	693	48,977
1858	35,891	9,266	1,916	299	176	47,548
1859	40,146	3,911	3,101	280	202	47,640
1860	35,719	2,673	3,375	301	258	42,326
1861	32,628	4,062	3,541	350	96	40,677
1862	26,194	12,950	2,771	450	296	42,661
1863	10,389	28,467	4,306	2,729	180	46,071
1864	12,316	34,436	7,925	599	431	55,707
1865	20,245	16,177	7,078	669	257	44,426
1866	29,341	7,377	6,633	438	577	44,366
1867	22,118	7,419	9,673	1,258	204	40,672
1868	26,716	1,706	6,970	742	224	36,358
1869	12,482	13,749	8,955	2,007	94	37,287
1870	13,523	9,901	6,881	2,652	25	32,982
1871	8,057	3,185	4,182	1,774	56	17,254
1872	4,056	2,262	17,690	5,106	217	29,331
1873	14,598	667	8,467	874	35	24,641
1874	20,766	263	8,281	838	23	30,171
1875	34,477	171	7,719	351	204	42,922
1876	37,382	266	11,907	138	90	49,783
1877	38,619	209	18,246	527	124	57,725
1878	21,697	232	11,867	306	190	34,292
1879	7,441	700	9,169	207	170	17,687
1880	6,345	489	5,069	264	785	12,952
1881	6,244	81	5,144	257	148	11,874

DESTINATIONS OF TREASURE SHIPMENTS—Continued

Years	Dom. Atlantic	Europe	Orient	West Coast	Elsewhere	Total
1882	$ 4,234	.....	$ 5,999	$ 82	$ 68	$10,383
1883	1,570	.....	10,303	38	387	12,298
1884	1,783	.....	14,551	16	1,190	17,540
1885	1,426	.....	18,161	43	601	20,231
1886	2,366	.....	17,250	30	930	20,576
1887	3,153	.....	14,727	152	534	18,566
1888	6,039	.....	15,985	221	304	22,549
1889	5,717	.....	18,892	284	1,089	25,982
1890	3,517	.....	7,764	75	828	12,184
1891	3,698	.....	7,946	96	1,032	12,772
1892	14,605	.....	13,741	170	609	29,125
1893	11,610	.....	11,960	125	927	24,622
1894	13,235	.....	12,825	504	615	27,179
1895	7,616	.....	18,033	286	471	26,406
1896	13,170	.....	14,101	165	1,113	28,549
1897	26,885	.....	17,565	90	1,049	45,589
1898	49,918	.....	7,673	140	811	58,542
1899	10,179	.....	7,763	50	2,922	20,914
1900	7,179	.....	14,741	61	347	22,328
1901	3,356	.....	11,119	101	12	14,588
1902	.....	.....	14,473	106	171	14,750
1903	.....	.....	4,606	64	1,642	6,312
1904	.....	.....	14,842	215	92	15,149
1905	.....	.....	15,944	8	389	16,341
1906	.....	.....	8,756	14	185	8,955
1907	.....	.....	3,924	156	302	4,382
1908	.....	.....	5,852	5	83	5,940
1909	.....	.....	36,035	267	33	36,335
1910	.....	.....	9,338	.....	75	9,413
1911	.....	.....	11,466	202	121	11,789
1912	.....	.....	15,837	3	96	15,936
Totals...	$1,022,340	$203,394	$591,576	$38,206	$26,046	$1,881,562

The large amounts shipped from 1850 to 1860 were due to the liberal production of gold in the State during that decade. The heavy movement in 1864 was due to the partial failure of the crops for want of sufficient rain and to the high price of gold in New York, which culminated at 264 in July of that year, equal to a premium of 164 per cent as represented in paper money.

The next very heavy movement occurred in 1877, and that was also due to light crops for the same reason and to the hard times incident to the agitation over the influx of Chinese, which led to riots and the formation of a vigilance committee.

The last year that these exports exceeded $55,000,000 was in 1898, when the total was $58,542,000. That was a record total in that line. It was largely due to the Spanish-American war, which led to an unusually heavy demand for gold in New York, and of the total amount of specie shipped in that year $49,900,000 went to that city, and nearly the entire amount was in gold coin.

Gold From Australia and Japan.

The heavy shipments of gold in 1898 caused no inconvenience to San Francisco, for California gold was not involved in that movement to any extent. It was gold from Australia that filled the urgent need. These gold shipments from Australia to San Francisco began to arrive in August, 1897, and for every month thereafter until the end of December, 1898, the golden stream was continuous, aggregating $38,376,000 for those nineteen consecutive months. This was followed in 1899 by a further importation of $12,454,000 in the same metal and from the same source.

In the calendar year of 1901 Australia sent to San Francisco $12,458,000 in gold and Japan $4,040,000. In the following year there was $7,791,300 in gold from Australia.

The imports of specie in the calendar year of 1904 were unusually heavy, amounting to over $45,000,000, including $36,579,200 in Japanese yen and $5,650,000 from Australia, most of the remainder coming from Mexico.

The imports of gold at San Francisco have mainly been from Australia and Japan. These were unusually heavy

from 1897 to 1904. During those eight years Australia sent to San Francisco $100,614,700 and Japan $49,754,100, or a combined total of over $150,000,000. Since 1904 about $15,000,000 more has been received from the same sources.

This money was sent to San Francisco, not to settle any indebtedness due to California from those countries, but rather because it was more advantageous to settle obligations incurred in Europe or in the eastern sections of the United States than to send the gold direct.

The price of exchange is the governing factor in international settlements, in connection with cost of freight and insurance in the transportation of the gold.

It is a source of local pride to know that San Francisco has figured so largely in the settlement of the world's business, and it does not seem to be a very hazardous statement to predict that San Francisco will soon occupy a still more prominent position in the exchange market.

California has not only occupied a unique position in the production of gold, but an equally unique position in its use and distribution to other parts of the country and of the world.

Its monetary standard from the very start was gold, and this was incorporated in the organic act. It has invariably adhered to that standard. In 1861, at the opening of the Civil War, when metallic and paper money parted company in nearly all the other sections of the country, great pressure was used to induce California to follow the example of other States, and make paper money the standard for commercial settlements. Fortunately that effort failed, and in 1879 specie payments were resumed throughout the United States.

As soon as the way was opened for the free and safe shipment of gold to the other side of the country and to Europe, California embraced the opportunity, and nearly

every steamer that left San Francisco for Panama took large consignments as part of cargo. In fact, in the very early years of this movement there was little else to ship.

For many years these gold shipments were regularly maintained. In 1869, when through railway service was inaugurated, the shippers of gold and silver transferred their business to the railroad, and the record of shipments by that route was given to the public until 1902, when the officials discontinued the courtesy.

Panama Steamers as Carriers of Gold.

The first steamer to arrive at San Francisco in the service between the Atlantic and Pacific by way of the Isthmus reached her destination on February 28, 1849, and the second one on April 1. Others followed at monthly intervals during the same year. Later on the service was made semi-monthly and afterwards tri-monthly.

The amount of treasure by the first steamer to leave for Panama is not remembered. However, the consignment by the steamer Unicorn, which left on December 1, 1849, was $780,000. Many who witnessed her departure said she carried $1,000,000, including the amount taken by the passengers.

It is a matter of record in the possession of the writer that many of these steamers not only carried $1,000,000 in gold, but over $2,000,000.

The steamer Sonora, which left for Panama on May 20, 1857, carried $2,284,864. There were over thirty shippers represented in that total. Drexel, Sather & Church headed the list with a shipment of $344,000. Other leading shippers were Wells, Fargo & Co., $336,200; B. Davidson, $274,500; Alsop & Co., $200,000; Tallant & Wilde, $200,000; Parrott & Co., $187,100; James Patrick & Co., $90,000; Levi Strauss, $75,200; Wm. T. Coleman & Co., $74,000;

D. O. Mills, $62,000; E. Kelly & Co., $59,000; H. W. Schwabe & Co., $54,000; S. T. Meyer & Co., $52,300; J. B. Weir, $33,000; Freeman & Co., $32,000, and D. L. Ross & Co., $30,300. The remainder was in smaller amounts.

In 1858 the 24 steamers for Panama took $45,814,000 in treasure, each one taking over $1,500,000, and six of them carrying over $2,000,000 each.

Seven of the steamers that left in 1859 carried over $2,000,000 each, one of them taking $2,401,300, while the total amount for the 24 steamers that year was $44,200,000.

In 1860 there were 34 steamers for Panama, and nearly all of them carried over $1,000,000 each, while the total for all was over $38,000,000.

In the following year there were 36 departures, one-half of the number with over $1,000,000 each, making a total of $35,800,000 for all.

In 1862 there were 37 steamers from San Francisco for Panama. In the first half of that year only two steamers took over $1,000,000 each, but in the last half of the same year only one of the steamers had less than $1,000,000. The total for the 37 steamers was over $38,000,000.

There were 33 steamers with treasure for Panama in 1863, carrying a total of $35,600,000, showing an average of over $1,000,000 to each. One of these was the Golden Gate, wrecked off the Mexican coast, and the treasure she carried has never been recovered.

In 1864 the premium on gold reached its highest point. That was in the month of July, when the currency price of a gold dollar in New York was 264. On that account the shipments of gold from San Francisco to New York were unusually large. There were 36 steamers sent out that year with gold, the total aggregating over $47,000,000. That was the record year in this movement by the water route for the Eastern and European account.

DESCRIPTIONS OF SPECIE EXPORTS

The character of the specie exports from San Francisco since 1867 in one thousand dollar amounts will be found in this table:

Years	Gold Coin	Gold Bullion	Silver Coin*	Silver Bullion	Foreign Specie	Total
1867	$ 3,200	$19,031	$ 3,241	$15,200	.....	$40,672
1868	2,612	17,662	2,210	13,874	.....	36,358
1869	7,921	13,851	3,820	11,477	$ 6	37,075
1870	9,122	8,376	3,673	11,797	.....	32,968
1871	3,612	3,020	1,957	8,664	.....	17,253
1872	11,957	7,889	1,581	7,904	.....	29,331
1873	2,968	9,077	4,200	8,396	.....	24,641
1874	10,817	3,498	6,276	9,449	.....	30,040
1875	24,902	1,065	8,253	8,679	.....	42,899
1876	21,725	3,488	13,810	10,759	.....	49,782
1877	29,594	1,677	17,094	9,360	.....	57,725
1878	694	10,752	12,706	10,140	.....	34,292
1879	78	3,805	4,372	7,964	.....	16,219
1880	42	5,525	2,925	3,681	2	12,175
1881	5,461	34	2,416	3,539	12	11,462
1882	3,601	28	2,522	3,879	2	10,032
1883	1,362	29	4,651	5,707	62	11,811
1884	1,334	39	9,251	6,113	157	16,894
1885	1,983	40	10,114	8,051	31	20,219
1886	2,799	86	9,298	7,748	6	19,937
1887	3,604	200	6,567	8,071	39	18,481
1888	5,913	12	5,724	9,908	25	21,582
1889	7,379	18	10,126	8,459	.....	25,982
1890	5,033	18	6,818	302	10	12,181
1891	5,004	11	7,120	583	49	12,767
1892	14,637	12	10,714	3,031	55	28,449
1893	10,508	71	9,953	2,512	141	23,185
1894	13,223	3	6,030	7,319	175	26,750
1895	6,323	7	10,341	8,087	28	24,786
1896	11,743	47	8,890	5,789	161	26,630
1897	27,087	4	12,273	5,427	123	44,914
1898	48,855	8	5,414	3,569	130	57,976
1899	12,197	16	4,043	3,984	80	20,320
1900	4,153	8	10,499	4,572	36	19,268
1901	1,744	222	7,033	4,839	24	13,862
1902	337	2,581	5,952	5,832	45	14,747
1903	1,228	1,844	1,815	1,119	6	6,012
1904	93	4,060	6,091	4,722	183	15,149
1905	411	1,667	7,989	6,274	.....	16,341
1906	191	5,658	610	2,492	4	8,955
1907	102	4	995	3,273	7	4,381
1908	72	2	15	5,850	1	5,940
1909	33	28,063	3	7,966	270	36,335
1910	27	1,970	49	7,367	.....	9,413
1911	72	2,000	48	9,467	202	11,789
1912	62	5,122	40	10,712	.....	15,936
Totals . .	$351,876	$122,884	$266,201	$298,710	$2,071	$1,041,742

*Includes Mexican dollars.

Gold in the Mails.

After this somewhat lengthy review it may be thought that the last word on the treasure movement of San Francisco had been said, but that is not true. Thus far the review has dealt with the more public movements of specie through custom house channels and express service.

Three factors in this movement still remain uncovered. These relate to the amounts sent through the United States mails on mercantile account, to the remittances of Government money through the mails and by express, and to the sums carried on the persons or in the personal effects of the traveling public.

As to the mercantile shipments of specie in the mails, the writer first became aware of that movement in 1879. It may have been in operation much earlier. But the first shipment in that way that could be verified from reliable authority was $485,000 in gold coin in December, 1879.

From that time on monthly shipments of specie through the mails on mercantile account were obtained by the writer until 1889, when the submission of such reports was suspended under a rule adopted by the General Postoffice Department at Washington. The writer's record of such shipment follows:

Years	Amount	Years	Amount
1879	$ 485,000	1884	$ 1,380,800
1880	7,018,000	1885	10,594,250
1881	15,980,500	1886	6,603,150
1882	5,319,550	1887	7,162,000
1883	1,533,000	1888	3,793,750
Total for the ten years			$59,870,000

This is the first publication in this concrete form of the above information, and is the record of only ten consecutive years. Most of this nearly $60,000,000 was in gold coin. How much was sent previously or subsequently in

the mails from San Francisco has never been made public and probably never will be. But as the shipments for the ten years named were gathered personally by the writer, he thinks it should go into this record. The mails are still used for this purpose by the banks and mercantile houses, but to what extent is not known. No account is taken of private money orders received or transmitted, but very large sums annually pass to and fro in that way.

As to the shipments of Government money to and from San Francisco in the mails, through the express service and by special train since 1850, and in connection with telegraphic transfers by way of the United States Sub-Treasury, it is impossible to give even an approximate statement, though some of these movements were purely on banking and mercantile account. It is safe to say that these Government shipments from San Francisco on Federal account aggregate hundreds of millions.

In the sixties the duties paid on foreign imports, always in gold coin, averaged over $5,000,000 per annum, and it was reported at the time that most of this money was sent to Government offices in the East. The writer has a record of several of these annual shipments of Government coin in $5,000,000 and $10,000,000 amounts.

Twenty Millions Gold in One Shipment.

At least two important shipments of Government coin from San Francisco across the Continent are of record. In the calendar year of 1885 these shipments amounted to $30,000,000. Of this sum $12,800,000 went through the mails and $17,200,000 by express.

So far as can be recalled, this was the largest shipment of the kind for any one year up to that time, and so far as known there has been no duplication of that event in amount or destination. But the $30,000,000 sent to New York or Eastern cities in 1885 was distributed throughout the year, the total for July showing the largest proportion.

The largest single shipment of Government gold from San Francisco across the Continent ever made occurred in August, 1892, when a specially guarded train took $20,000,000. This consisted of $10,000,000 in eagles and $10,000,000 in half eagles. The entire amount was packed in boxes of $40,000 each, weighing 2,150 troy ounces. The boxes were strapped and sealed and forwarded as registered mail. The packages remained in the sub-treasury on the night preceding its shipment, and Colonel Burns, who had superintended the count and packing, remained up all night to watch the special guard placed over the same.

Some newspaper reporters had received a hint of the affair, and wanted to know all about it, of course. The only information they could get was that the coin was to be sent to the Mint for lack of vault room at the sub-treasury.

As evidence that this information was not altogether satisfactory, the reporters camped about the entrance of the sub-treasury on the following morning to see for themselves. The boxes of gold were placed aboard trucks under guard, and the transporters, accompanied by the reporters, took up the journey to see the disposition and learn the actual destination of this large amount of gold.

Colonel Burns' veracity was being put to a severe test, but he was determined to make good, even at some extra expense, delay and labor. The caravan stopped in front of the high stone steps leading to the entrance of the United States Mint at the corner of Fifth and Mission streets. All the boxes of gold were transferred from the trucks through the front doors into the Mint building. The reporters were convinced that Colonel Burns had given them straight goods, and went back to their respective offices to write up the story.

Soon after, on the same day, these same boxes were

taken out of a rear door of the Mint, placed aboard trucks, and taken to the railway station, where special cars were waiting to receive the same.

Five cars were reserved for this purpose, and the gold was equally distributed between them. Fifty armed men accompanied the treasure, ten to each car, all properly provisioned for day and night vigils, until relieved at New York the destination of the shipment.

Three Hundred Millions Sent to Denver Mint.

A still larger movement of Government coin, though less spectacular and for a much shorter distance, occurred in 1910, when, under the superintendency of the late Judge Sweeney, about $300,000,000 in gold coin was transferred from the United States Mint in San Francisco to the United States Mint in Denver. This movement was in comparatively small amounts, and the delivery covered several months.

The object of this transfer, as given to the press by the officials, was to create more vault room at the Mint in San Francisco for gold deposits. Another reason for this removal of gold from the Coast to the interior was traced to rumors that Japan might some day make war on the United States.

As to the amount of specie brought into San Francisco on the persons or among the personal effects of travelers, or carried off in the same way, there is no reliable information to be had. Fifty or sixty years ago, travelers probably did carry enough money with them to cover the expenses of their trip. In the pioneer days of California it is quite likely that miners returning to their homes in the East or elsewhere carried about their persons the gold they had secured. It has been estimated that the 1,509 passengers for Panama leaving San Francisco in Decem-

ber, 1849, took on an average $500 apiece, equal to a total of $754,500, and that the 7,634 passengers departing in the same way in 1850, on the same average basis, took $3,817,000. No attention has been paid in this review to such shipments. The endeavor has been to deal with facts, and not theories.

MANUFACTURES, TRADE AND TRANSPORTATION

California Manufactures.

If California has not made as rapid progress in the line of manufactures as some of the other States, there are good reasons for the restriction. One of these lies in the fact that the people have been largely occupied in other and more remunerative lines. It was not only the first State to give generous employment to gold producers, but it has maintained a large army in such employment for the past sixty-five years, or for two years longer than the State has had an existence. So long as other mineral developments, grain and fruit raising furnished lucrative employment to the increasing population, there was comparatively little need to invest capital and labor in building up manufactures. In other words, so long as manufactured articles of other sections of the country or of other countries could be purchased in California cheaper than they could be made in California, there was little need to waste good money and valuable time in that line of industry.

Despite these and other reasons that might be cited for any apparent neglect in the development of manufactures in California, it can be truthfully said that a very good record has been made, and that the State is proud of the

variety, the volume and the superior character of its manufactures. Any article made in any other part of the United States has been made or can be made in California. In proportion to population, the volume of such product has been equal or can be made equal to a corresponding population elsewhere. The quality of the articles made compares favorably with the best produced elsewhere.

Every decade of California's history shows commendable progress in the line of manufactures, if any reliance can be placed in the census returns of the United States.

According to these returns, the capital invested in manufactures in 1850 was a little over $1,000,000, and the value of the output nearly $13,000,000. Ten years later the capital was over $22,000,000, and the value of the product exceeded $68,000,000. At the end of the next decade the capital was nearly $40,000,000, and the value of the product was $66,500,000. That decade witnessed a greater percentage of increase in capital than in product, from which it might be inferred that the profits were less.

In 1880 the capital in California manufactures was $61,200,000, and the value of the product $116,200,000. In the very next decade there was more than a doubling up of capital and nearly a doubling up of product. The capital reported in 1890 was $146,800,000, and the value of the product $213,400,000. In 1900 the capital was further increased to $205,400,000 and the value of the product was $302,900,000.

The United States Census of 1910 showed a capital of $337,134,000 invested in California manufactures at the close of 1909, and a value of $529,761,000 for the product that year. The number of manufacturing establishments in California in 1909 was 7,659; number of wage earners employed, 115,300; number of salaried officers and clerks, 18,200; salaries and wages, $107,097,000; other expenses,

$43,819,000; cost of materials used, $325,238,000; value added by manufacture (products less cost of materials), $204,323,000.

Three years have elapsed since the statistics in the preceding paragraph were collated. If only the annual increase between 1900 and 1910 were to be added for the last three years, the totals for 1909 would be materially increased.

There is little hesitation in saying that the actual gains for the past three years have been greater than in many of the previous five-year periods. Of course, this statement can neither be proven nor denied by any data available to the writer. He believes it to be true; and, if not true, it ought to be.

There is not a State in the country where the climate is so favorable for developing manufacturing industries as California. The climate is a valuable asset to the manufacturer, and is equally valuable to every worker in every department. More work can be performed with less fatigue than in any other part of the country.

In the earlier years the high cost of coal and labor operated to restrict the development of manufactures in the State. The great abundance of fuel oil and the great strides in the development of electrical power in the last decade are valuable incentives in the interest of manufacturers. New markets are being opened locally through increased population and from distant sources of demand by more favorable transportation facilities and closer and more intelligent relations with the foreign markets of the world. California is more widely known today than in any previous year, and is more generally and generously appreciated the world around. Several new and important plants are promised in the near future.

California is at last coming into her own in the matter

of manufactures. It is one of three important industries that is to receive increased attention hereafter. A beginning has been made, and there will be no let up until the field is wholly covered.

To do this rapidly and effectually there must be co-operation all round. The assurance of economical power to drive machinery has already been secured in the production of fuel oil in abundance and at reasonable prices, and in the manufacture of the electrical current for light and power. California has astonished the country in what it has accomplished in these two directions, but there are more surprises of the same character to follow. If the ocean waves can be harnessed to produce electricity, as is now claimed, California has the biggest ocean in the world at her command.

To successfully compete with other sections of the country, the people at this western end must be content to place their capital and labor on relatively the same basis as the averages of these factors prevail in other States. One dollar must go as far here as in other sections of the country.

This is the price which universal competition exacts. If Californians are willing and able to meet it, they can and will enjoy their rightful part in supplying other markets with what it has to spare in the line of manufactures, as it has been doing right along in the surplus products of its soil and its climate.

The Mercantile Business.

Every now and then in some part of the country there is a hue and cry to get rid of the middleman, and thus bring the producer and consumer face to face. In this way, it is argued, both parties would be benefitted, the pro-

ducer receiving a higher value for his product and the consumer paying less for the article than he now does.

When the products of the soil, the mines and the factories can be transmitted without cost from the source of production and preparation to the possession of the consumers, the middleman, whether a transporter, or a broker, or a merchant, may be dispensed with, but not until then.

Many years ago some California grain raisers, whose chief customers were 17,000 miles away, thought they would put themselves on velvet by getting rid of the middleman. Of course, the great waste of water between the producers and consumers was an obstacle that could not be overcome altogether. The best they could do under the circumstances was to charter their own ships and load them direct. As some of these farms did not abut against navigable streams, it was necessary to employ some other means for getting the grain to the ship. Crops were good in California that year, and the farmers had a busy time in loading their ships, with a minimum amount of help from the middleman. One year's experience in that business convinced them that their theories of the uselessness of the middleman were not exactly correct.

The middleman is a somewhat ancient character. It is difficult to remember when he first came into being. It is even more difficult to predict when he will be no longer wanted. If he be an undesirable in the world's business, he will have to be tolerated for a while longer; and, so long as this continues to be the case, it is well to treat him courteously. He is a consumer himself, and has to take the same medicine and in the same sized doses as other consumers. If in the evolutions of the future he should be displaced from his position, he would have to become a producer, and thus make it harder for existing producers to get as much for their products, or he would have to

affiliate with the class of undesirables, and so become a burden to producers.

You just let him alone. He fills quite as legitimate a place in the economics of life as the producer of raw or manufactured products.

The mercantile class, as a whole, is quite as respectable as any other representative body in any community. They are not all honest, neither are they all knaves. They are certainly up to the average of the communities they serve. Some of them are called captains of industry or merchant princes. No one thinks of classing them as servants, and yet there is a sense in which that is true. A servant is one who serves, and every merchant is a servant, both to the producer and to the consumer.

It is conceded that those engaged in the mercantile life of California are as good as the average in other States. Nothing beyond that is claimed for them, nor do they claim it for themselves.

Some of the pioneer merchants in this State had their training in Eastern or foreign cities. Others entered mercantile life for the first time here. There are fewer illustrations of sons succeeding their fathers in business here than in some of the older States, and that is quite natural. But there are some cases of that kind even in this comparatively new section of the country. It is a pleasure to say that they are upholding the high standards of business integrity handed down to them by those once so active in the affairs of the world, but no longer here.

It was a merchant of the high Eastern type that led others in cleansing San Francisco of ruffians in 1856. If anything of that kind should be needed again, the man for the hour would be found.

Five times in two of the early years of San Francisco's existence the city had to be rebuilt because of extensive

fires. The merchants were the leaders in doing that work, as they were the principal sufferers. It is related that before the coals had ceased to glow, water was poured upon them from pails, and buildings were immediately started. Cases of that kind occurred at the end of the big fire of April, 1906, and in one case at least the new lumber took fire from some coals that had been overlooked. All honor to the typical California merchant, fit to grace any position or to withstand any foe.

Transportation Service.

California is not only a very productive State in variety, but a very prolific State in nearly every form of resource developed. As a result of these conditions, there have been good supplies for the local demand and a liberal surplus for export. All needed articles that could not for the moment be produced here as economically as elsewhere, with freight and other expenses added, were imported.

Because of this state of affairs, transportation lines, both by water and land, have experienced as a rule a profitable business in serving California by bringing to her ports such commodities as were wanted, and taking away such products as could be spared. At times the people have had to pay high prices for this service, while in other years the rates have been low and unremunerative to the transporter.

The Pacific Coast service was the first urgent need of the transportation business. This led to the building of small vessels to ply up and down the coast with lumber and other produce. Fortunately the gold discovery brought scores and even hundreds of sail vessels and steamers here, and as at that time there was not sufficient freight to give them outward cargoes, they were purchased at low figures

and pressed into the Coast service, thus supplying very largely that demand for many years.

As soon as there was a need for deep water tonnage, California found no difficulty in having the pick of the world's best, so anxious were the owners of vessels to head them for the golden shores of the Pacific. Very early a forest of masts was seen in the bay, the number of sail vessels in port exceeding 500.

During the most active period of the wheat export trade, say for the sixteen years ending June 30, 1888, there were 4,696 vessels of over 6,000,000 tons of registered tonnage, cleared from San Francisco with flour and grain. In that fleet there were 1,421 American vessels of 2,183,900 tons of registered tonnage, 2,864 British vessels of 3,438,900 tons, and 411 vessels of 378,600 tons under other foreign flags. In one of these years the number of sail vessels cleared was 559, including 149 American and 345 British.

When water craft did not fully meet the requirements for quick despatch in supplying the State with the necessary Eastern and foreign goods, and in meeting the demand for California products in other parts of the country and of the world, a quartette of enterprising local merchants undertook the enterprise of building a continental railway to connect with a line that was being built by Eastern capital that had Ogden, Utah, as its western terminal. This was a heroic effort, requiring great courage as well as large capital, but it was successful.

The accomplishment of that event on May 9, 1869, gave California a continuous railway from Sacramento to New York. A little later the last gap between Sacramento and tidewater was closed. Subsequently the same parties constructed an all-rail line between San Francisco and New Orleans. Still later there was a line built from San Fran-

cisco to Portland and from Portland to Tacoma and Seattle, connecting with two overland railway lines from those cities with the entire railway system in the Atlantic States. Two years ago still another overland railway entered San Francisco. The building of local railways has kept pace with these more extended lines. Further extensions are contemplated of the transportation service both on land and water.

From the writer's volume on "San Francisco's Ocean Trade" the following summary of ocean tonnage arrivals at that port has been computed, showing the growth by decades:

Years	Foreign Trade		Domestic Trade		Combined Trade	
	Steam	Total	Steam	Total	Steam	Total
1848–50	534,200	1,609,200	123,000	2,779,000	657,200	4,388,200
1858–67	1,357,600	2,693,900	440,100	3,889,400	1,797,700	6,583,300
1868–77	2,326,100	5,285,300	1,840,800	8,171,300	4,166,900	13,456,600
1878–87	3,556,300	8,302,500	4,077,200	10,728,500	7,633,500	19,031,000
1888–97	4,893,700	11,201,300	7,131,500	11,696,800	12,025,200	22,898,100
1898–07	9,263,100	13,829,000	13,842,000	17,981,900	23,105,100	31,810,900
1908–12	8,350,800	9,199,200	14,360,400	17,513,900	22,711,200	26,713,100
Totals .	30,281,800	52,120,400	41,815,000	72,760,800	72,096,800	124,881,200

REAL ESTATE OPERATIONS IN SAN FRANCISCO

Under the village era of Yerba Buena, as San Francisco was originally called, the first private land titles were granted in 1835. The first of these issued was to J. A. Galindo for 2,220 acres, known as the Rancho Laguna de la Merced. Others for large tracts followed, until the whole peninsula for thirty miles to the south of the Golden Gate was practically covered with these grants.

Jacob P. Leese is credited with having put up the first frame building in San Francisco in 1836. In the following year the same gentleman erected a more substantial frame building on the west side of Montgomery, between Clay and Sacramento.

In a visit to this port as a sailor in 1835, Richard H. Dana predicted that if California ever became a prosperous country, the bay of San Francisco would be the center of that prosperity.

In his proclamation issued at Monterey in July, 1846, Commodore Sloat predicted "a great increase in the value of real estate," and added, "the country cannot but improve more rapidly than any other on the Continent of America."

In March, 1848, Edwin Bryant, alcalde of San Francisco, in announcing a public auction offering of thirty-five blocks of the water front between Broadway and Folsom, sought to encourage purchasers by saying "the town is destined to become the commercial emporium of the western side of the American Continent." These were bold declarations for that early period in the history of San Francisco.

Jasper O'Farrell, an Irish civil engineer, was selected to make a survey of the lots thus offered, some of which were covered by water, and were surveyed by drawings on

paper. The offering covered 450 lots, 45 by 137½ feet. There were 200 of these sold at prices ranging from $50 to $600, most of them at or near the inside figure. Some lots reserved for possible use by the Government, located between Clay and Sacramento, were sold in 1855 at an average of $12,000 each. This large increase was due to the liberal gold product.

Under a later survey of ground, not so near the bay, there was an offering of a large number of 50 vara and 100 vara lots, with a sale of 400 of the former at $16 each and 70 of the latter at $29 each, including the expense of deeds and recording.

On the 1st of March, 1846, there were 30 buildings of all descriptions in San Francisco. In the following 17 months 150 more were added, one-fourth being adobe structures and the remainder shanties.

Most of the lots surveyed by O'Farrell had been sold prior to July, 1849, and soon after a new survey was ordered, extending the building area west as well as north and south. The 50 vara lots in this new survey were offered at $200 and the 100 vara lots at $500. Lots covered with scrub oak that could be used for firewood were given the preference by buyers, who thus took the precaution to guard themselves from any possible loss on their purchases.

San Francisco experienced its first serious business depression in 1854, incident to previous over-speculation in all sorts of property and a marked falling off in the gold product. Real estate values suffered under that period of depression quite as much, if not more, than any other kind of investment. The Henry Meiggs failure for nearly one million dollars was the feature that year. In February of the following year the bank of Page, Bacon & Co. suspended, and this led to other disasters of a similar character. It was the culmination also of other disorders of a social and political character, some of which a vigilance committee, in 1856, endeavored to remedy.

In the Spring of 1858 a new element of depression in real estate values in San Francisco was caused by the reported discovery of rich gold diggings on Fraser River, B. C. In less than four months of that year from 15,000 to over 20,000 people left the city for the new Eldorado in the North. Such a sudden exodus caused a further depreciation of 50 per cent in real estate values. This excitement over gold on Fraser River was of short duration. Many of those first attracted to the scene were on the way back before the last of the contingent had started.

It was a very costly affair to those who made the trip, not only in passage money and other expenses, and in the value of the time consumed, but in the sacrifice of property values to make the start. Miners that were making $10 per day in working placers in California were represented among the deluded.

The sales of real estate in San Francisco in 1858 were reported at $4,110,800. Two years later, according to the same authority, these sales amounted to $8,854,200. This total shows a sharp reaction from the depression of 1858. During the interval much new capital had sought investment in real estate, and the Market Street Railroad had come into existence, making available much new territory. It was during that interval that the Limantour and Shereback claim of nearly 6,000 acres was settled.

The improvement which started in 1859 continued, with slight interruption, for a period of ten years. During the greater part of that interval there was quite a boom in the business. Having started on the up road, the movement was accelerated by the prospect of an early completion of the first through railway between the Pacific and Atlantic, that was to unite with bands of steel San Francisco and New York.

These conditions brought into existence quite a number of Homestead Associations in this and the adjoining county. Many large tracts of land were secured and turned over

to organizations to dispose of at moderate prices per lot. These lots were quickly sold and almost immediately resold at a good advance. Of course, this had the effect of stimulating buying in every new venture of the kind that was put upon the market. These projects covered an area of territory that would have accommodated millions of people if they could have been content with a residence lot of 25 feet front and 100 feet deep.

The persons manipulating these speculations made much of the rush of immigrants that would come to the city from the East as soon as the through rail line was opened for travel. It was represented that this crowd would be simply immense, and that, of course, every one representing a family would want a lot at any price.

Under these representations these lots in the Homestead Associations went off quickly, and the prices rose rapidly, some of them selling at a good advance before the original buyers had secured their deeds.

It was the greatest boom in residence lots the city had ever enjoyed, and it has never been repeated, and it is to be hoped it never will be, at least under similar representations, or rather, under similar misrepresentations.

The boom collapsed many months before the laying of the last rail that united the West with the East, and it left hundreds of lots in the hands of purchasers who have never been able to get the prices they paid for them. This is true of some who got in on the ground floor in the latter part of that boom interval, and by ground floor is meant the price paid the associations for the lots. Of course, those who bought from second and third hands have fared worse.

The record value of sales of San Francisco real estate prior to 1863 is more or less faulty.

The appended record of sales, mortgages and releases of realty operations in San Francisco has been compiled from the monthly reports of Thomas Magee & Sons:

Years	Deeds		Mortgages		Releases	
	No.	Amount	No.	Amount	No.	Amount
1867	5,556	$17,640	2,808	$ 9,994	1,489	$ 5,768
1868	6,724	27,217	3,004	11,452	1,996	5,382
1869	6,908	29,938	3,041	13,289	1,771	5,921
1870	4,677	15,630	3,089	13,373	1,961	8,500
1871	4,016	12,718	2,633	11,462	2,037	9,450
1872	3,657	13,127	2,153	10,143	1,527	8,137
1873	3,134	12,383	1,684	7,237	1,466	6,141
1874	3,854	23,894	2,616	16,873	2,029	11,201
1875	4,508	35,889	2,888	16,892	1,894	9,740
1876	3,846	24,059	3,741	17,414	2,273	11,805
1877	3,085	18,550	4,089	24,368	2,243	13,515
1878	2,614	14,584	2,958	15,644	2,356	15,004
1879	2,217	10,319	2,325	9,556	1,957	10,343
1880	2,331	13,995	2,002	7,173	1,985	10,765
1881	2,377	12,234	1,841	7,279	1,915	9,693
1882	2,385	15,128	2,023	10,023	2,093	12,013
1883	2,937	15,876	2,277	8,221	2,129	10,018
1884	3,874	13,374	2,640	9,936	1,976	8,984
1885	3,633	13,134	3,050	9,462	1,899	7,176
1886	3,101	15,120	2,652	8,676	8,444	7,852
1887	4,998	20,745	3,206	11,536	2,226	7,871
1888	5,356	24,744	3,382	13,857	2,335	9,721
1889	6,736	33,769	4,317	16,347	2,591	10,219
1890	6,680	36,546	4,671	15,796	2,500	9,936
1891	6,757	27,431	4,607	17,695	2,745	10,972
1892	4,958	20,519	4,305	16,061	2,674	10,316
1893	4,117	13,621	3,791	13,743	2,514	9,389
1894	3,404	14,227	4,343	17,563	2,630	12,666
1895	3,515	15,947	4,747	17,652	2,778	13,174
1896	3,267	11,545	4,215	14,273	2,680	10,769
1897	3,215	12,903	4,322	13,818	2,774	11,246
1898	2,645	10,747	3,495	12,357	2,566	10,155
1899	3,053	14,555	4,909	13,873	2,926	13,228
1900	3,259	18,528	4,010	17,034	3,230	14,712
1901	4,261	29,087	4,111	20,148	3,311	15,472
1902	5,813	47,397	4,783	25,255	3,953	20,249
1903	6,365	47,710	5,194	30,830	4,003	21,347
1904	7,073	45,804	6,116	32,978	3,912	20,983
1905	9,572	74,926	6,746	35,017	4,751	23,384
1906	8,911	68,064	5,488	35,826	4,660	*9,001
1907	8,204	31,816	6,401	44,584	4,134	.....
1908	7,418	31,084	6,257	41,842	4,541	.....
1909	7,972	33,879	8,005	44,988	5,238	.....
1910	8,528	31,291	8,690	44,900	5,790	17,564
1911	8,162	35,269	8,716	48,916	5,827	20,971
1912	7,900	45,175	9,504	58,920	6,418	32,893

*Imperfect record of cancellations from April 1, 1906, to January 1, 1910.

This record of real estate transactions in San Francisco for the past 46 years, prepared monthly by the same careful authority, must be accepted by the public as approximately correct. It is not assumed that it is absolutely correct, for, considering the conditions under which the information has been gathered, perfection is simply impossible. The value of the property transferred is rarely incorporated in the deed, and there is no law to enforce a provision of that kind.

It is different with mortgages, where there is some evidence of the amount. The releases are incomplete in amount, if not in number, as the cancellations are not always registered.

The variations in the yearly aggregates of deeds recorded are supposed to reflect the conditions of the market in the years for which they stand.

The year of smallest aggregate sales was 1879. That was the culmination of a very dull period in general business, and at the end of a long period of agitation over the restriction of Chinese immigration, and the adoption of a new State Constitution containing some radical features. It took several years to recover from that period of depression.

Ten years later the market swung back into the high level obtained in 1875 and for two years the sales averaged $35,000,000 per annum. Only three years in that quarter of a century did the annual totals figure in the thirty million amounts.

From 1891 to 1898 the general tendency was to a diminished volume of sales. For the first two years of that period there was a very marked decrease in the value of the sales recorded, amounting practically to 50 per cent, and very little of that loss was recovered during the remainder of that interval, the extreme low level of which

was reached in 1898, when the total was $10,747,000, or about the same as in 1879, when the record low total for a half century was registered.

The unfavorable conditions for the most part during that interval of eight years were largely due to the silver agitation and inflation of the coin currency with dollars that were at a considerable discount as measured by the gold standard that the country was theoretically, if not practically, under. This coin inflation led to an unwarranted extension of credits, culminating in the great bank panic of 1893.

From the low level of 1898 there was, with few exceptions, steady expansion from year to year until 1905, the year preceding the great disaster, when the total reached nearly $75,000,000, the largest total in the history of such transactions in the city. The following year was nearly as good, despite the heavy losses by fire and earthquake. But there was a decrease in 1907. Since 1910 the amount represented by these sales has been steadily growing.

The sales in 1906 reached over $68,000,000. For the next two years the sales averaged $31,450,000, the difference between these two years being very slight. In 1909 there was an increase of more than $2,000,000 over the average of the preceding two years. This increase was entirely eliminated in 1910, when the total was $31,291,300, the smallest amount, with one slight exception, since 1901.

While there were nearly four hundred less deeds recorded in 1911 than in 1910, the amount represented by the deeds was $4,000,000 greater, showing that the market was again on the up grade.

This was further evidenced in the transactions for 1912, which totaled over $45,000,000, the largest sum since 1904.

In 1912 there were 92 sales between $40,000 and $100,000, together with 36 between $100,000 and $200,000, while

there were 19 over $200,000, the total for those 147 sales being $17,252,000.

San Francisco has been practically rebuilt some half-a-dozen times, incident to the big fires to which it has been subjected since 1849.

The improvements erected since the great calamity of April, 1906, have generally been of a more permanent and costly character, and compare favorably with the best of the most modern type in any American city.

Municipal Indebtedness.

According to one of the early city directories, the debt of San Francisco in 1851 was $3,000,000, and it was bearing interest at the rate of 3 per cent per month.

It was some time during that year, according to the San Francisco Weekly Stock Circular, that this debt was funded in 20-year 10 per cent bonds, of which $1,188,000 was outstanding in October, 1870, when they were quoted by the Stock Exchange at par and interest. The title of the issue was San Francisco Bonds.

According to the same authority, another issue was authorized in 1855, bearing 6 per cent interest, under the title of San Francisco City Bonds, redeemable in 1875. Of these bonds, the amount outstanding was $217,000, and they were quoted at 95, the interest being payable in New York, whereas, the interest on the other bonds was payable in San Francisco.

The City and County of San Francisco were consolidated by Legislative Act in April, 1856. The year previous to this consolidation the expenses of the two forms of government were $2,646,000, whereas, for the first year afterwards they were only $353,000.

The first bond issue after consolidation was in 1858, under the name of San Francisco City and County Bonds.

These were 30-year 6 per cent. bonds, of which $1,031,000 was outstanding in October, 1870, and then quotable at 84 to 86.

Some 10-year 10 per cent San Francisco School Bonds were issued in 1860 and 1861, the interest on the same being payable in New York. These were practically all redeemed before the close of 1870.

The next issue of School Bonds was in 1866. These were 15-year 10 per cent bonds, and put in the market as San Francisco City and County School Bonds, with interest payable in San Francisco.

The City and County of San Francisco issued other bonds between 1862 and 1865, and for other purposes.

One of these issues was in the form of a subscription to the San Francisco and San Jose Railroad, which was opened in June, 1864, the first line out of San Francisco.

There was another issue in 1864 for account of the Central Pacific, and still another in 1865 for account of the Western Pacific Railroad. These bonds to the railways all bore 7 per cent interest, the first issue being for 15 years and the other two for 30 years.

The City and County of San Francisco, in 1863 and 1864, issued some Judgment Bonds to run 20 years at 7 per cent.

On June 30, 1877, the funded debt of the City and County of San Francisco then outstanding, according to Auditor Maynard's report, was $4,322,500 in 19 issues, of which 10 bore 7 per cent interest and the remainder 6 per cent.

In 1875-76 there was a special issue of $1,500,000 in Montgomery Avenue bonds, to be paid by a special tax on the district benefited, and in 1877 there was another special issue of $1,000,000 Dupont Street bonds, to be met in the same way.

At the beginning of the present century San Francisco was one of the few American cities of any size without a bonded debt of any kind. In the past eight years, however, the city has authorized a bonded debt of $97,394,000. This issue is clearly in excess of the 15 per cent of assessed value fixed by the charter, but nearly two-thirds of this authorized issue is still unsold. The first issue for July 1, 1904, consisted of $17,174,000 in 3½ per cent bonds for eight different municipal purposes. Of this issue, $9,060,000 has been cancelled because of the inability to sell them at par, the limit fixed, and $1,758,700 remain unsold. In 1908, an issue of $18,200,000 in 5 per cent bonds was authorized, of which $15,196,000 has been sold. In 1909, an issue of $600,000 in 4½ per cent bonds was authorized and sold. In 1910, three bond issues of 4½ per cent was authorized, of which $600,000 was for Polytechnic High School, $2,020,000 for a municipal railway on Geary street, and $45,000,000 for water supply. Of these issues, $44,139,000 remain unsold. In 1912, two issues of 5 per cent bonds were authorized, one of $8,800,000 for a new City Hall, and one of $5,000,000 for the Exposition. Of the bonds sold, $3,353,000 has been redeemed, leaving the amount of $22,179,300 outstanding on July 1, 1912. The City Hall and Exposition bonds have not been sold.

Assessment Rolls and Taxes.

The rate of taxation in San Francisco has varied considerably. In 1856 and again in 1857 the rate was $2.30 for city, county and State purposes. In 1858 the rate was $2.45, and in 1859 it was a fraction below $3.17. For the next five years the extremes were $2.10 and $2.98. These were the rates for 1863 and 1864.

In 1861 the assessed valuation of property in San Francisco, real and personal, was $41,870,800, while in 1864 it was $83,197,600.

From 1865 to 1869, both years inclusive, the tax rates varied from $3.12 in the first named year to $3 in 1867. In 1869 the assessment roll was $114,759,500.

The extreme rates of taxation for those five years have never been duplicated, and it is to be hoped they never will be while normal conditions prevail.

The highest rate since 1869 was $2.97 in 1871. In the very next year the rate was $1.50 and in 1874 it was a fraction under $2.10. In 1872, 1874 and 1875 no taxes were collected on about $54,000,000 in mortgages. In 1876 the tax rate was $2.12½, in 1878 it was $2.24, and in 1880 it was $2.21. In all the other years from 1872 to 1894, inclusive, the extremes were, with one single exception, from $1.50 to $1.86. In 1895 the rate was $2.25. In the very next year it was $1.40. For the following decade the range was from $1.56 to $1.80. In the first three of the last six years the range was $1.86 to $1.96.4, while for the last three years the rates have been $2, $2.05 and $2.09.4. In the last six years the assessment roll has increased from $429,632,800 in 1907 to $604,810,500 in 1912.

FIRE UNDERWRITING IN CALIFORNIA

The pioneer underwriter of California was not backward in coming forward, for he was found among the early immigrants to these shores. He was almost ready to "set up" in business before a fire had been kindled in the improvised habitations on the dreary sands and hills, where now stands the metropolis of the Pacific. He was for organizing a company before the State was organized, and, of course, before any laws were enacted covering that branch of business. It was fortunate for him that there were obstacles in the way of perfecting his schemes. No

doubt he could have exacted high premiums for writing risks on the frail tenements which dotted the locality of the city in 1849, but the first serious fire would have wiped him out. It was equally fortunate that he failed to enlist others in his plans in that or the years immediately following, for local capital invested in underwriting could never have stood up against the heavy losses incident to the large and disastrous fires which occurred in San Francisco in the early years of its history. The obstacles in the way of forming insurance companies at that early stage saved the reputation of those most eager to engage in the enterprise.

According to the recollections of pioneer citizens, Burling & McKee, two ambitious young men from Baltimore, were the first to concern themselves about the formation of local insurance companies. This was in 1849, and before there had been any legislation created to govern such organizations. The very first Legislature under the State Constitution supplied the needful laws in an Act for the formation of Mutual Insurance Companies. This was supplemented in the Spring of 1851 by further legislation along the same line. But notwithstanding these efforts of the law makers to open the way for local capital to engage in the underwriting business, the desire to enter that field was not so strong as it was before the thing was made possible. The provision of these early laws on the subject were very strict, and those who had money to put into the business were in consequence disinclined to embark in the undertaking. The hazardous character of nearly all the local risks that could possibly be secured, and the insufficient facilities in the way of water, engines and hose for suppressing fires, also served to make capitalists shy about entering joint stock corporations for underwriting purposes.

Five serious conflagrations visited San Francisco in the first two years of its occupation by goldseekers. During that interval the buildings of the city were of the frailest and most combustible material, composed largely of old ship hulks, tents and frame structures built of Eastern pine brought out around Cape Horn. These frame structures were cloth and paper lined, with stovepipes for chimneys and camphene lamps for illumination. Added to these favorable circumstances for the spreading of fires were correspondingly poor facilities for extinguishing the flames. The only water supplies were cisterns and carts in which it was carried from house to house. There were some small hand engines, and plenty of willing hands and courageous hearts, but under such adverse conditions they could accomplish but little. A fire once started generally had its own way, and swept everything in reach before it. The losses were frequent and severe, not so much in the quantity and value of the property destroyed—though these to the isolated inhabitants were no inconsiderable item—as the difficulty of recouping, owing to the great distance from sources of supply.

First Fire Insurance Company, and Still Here.

It was not until 1852, after these five severe losses had taught the people a lesson, that the erection of brick and otherwise fireproof buildings was commenced. Of course, during the tinderbox period, it was next to impossible to insure property in the city. After the construction of a few substantial buildings, a foreign company was induced to open an agency here. This occurred in 1853, when the Liverpool and London and Globe Insurance Company, Ltd., of England, established an agency here, and put Joshua P. Haven in charge. Mr. Haven was a native of Philadelphia, and had been trained to the underwriting business. He

naturally pursued a cautious course, and was critical as to the risks assumed. The business was spread over the State, and it was not long before a fairly good clientage was secured; and for a time Mr. Haven had little else to do except to rake in the premiums, which soon amounted to $10,000 per month, most of which was, of course, clear profit. His first heavy loss was $12,000 on the store of J. D. Farwell on Clay street, near Front. This was in 1856. In the Fall of the same year the company sustained a loss of $30,000 on the stock of William Hawley & Co., of Marysville. This was settled with remarkable promptness.

The Liverpool and London and Globe Insurance Company has never left this field, and is, therefore, the oldest underwriting agency in California. It has always conducted a safe business, and has promptly met all its obligations. Joshua P. Haven was succeeded by William B. Johnston, and, upon the death of the latter, Mr. Charles D. Haven was made resident secretary, and held that position until January 1, 1913, when he was retired on a pension. In early years the business of the company was conducted in a building on the east line of Montgomery, between California and Sacramento, formerly owned by Joshua P. Haven, who died in 1862. Some years later the company took possession of the northeast corner of California and Liedesdorff streets. The company is now rebuilding on the same site, because of the damage to the structure, previously occupied, by the big fire of 1906. The company was organized in London in 1836, and entered the United States for business in 1848.

In 1854 the Imperial Fire and Life Insurance Company of London opened a fire agency in the city, appointing as its agents Falkner, Bell & Co., who retained the agency for thirty years.

The Monarch Fire and Life Insurance Company of Eng-

land came in soon afterwards, but was subsequently absorbed by the Liverpool and London and Globe.

In the same year an agency of the Northern Fire and Life Insurance Company of Edinburgh was established here, with Smith Bros. & Co. in charge.

First Eastern Fire Insurance Companies.

The first American companies to enter the State were the Continental and Home of New York, in 1854 or 1855. C. Adolphe Low & Co. were the local agents of the former and Case, Heiser & Co. of the latter. Both had to struggle for business, being handicapped by small capitals, say $300,000, whereas all the British companies represented here at that time had large assets, and, of course, had the preference with the insuring public.

During this period, say from 1853 to 1855, several local mutual organizations came into being. One of these was the California Mutual, which was started in August, 1853. These were all short lived, and cut but a small figure in the underwriting of the city.

After 1855 Eastern and foreign insurance agencies began to multiply in San Francisco, and this move was not without its effect upon local capitalists.

In the Fall of 1855 two men left the city for New York for the purpose of enlisting insurance companies to establish agencies in California. One of these was Caspar T. Hopkins, who had been here since 1849, and the other was Jonathan Hunt, who had come to the city more recently and for the purpose of looking over the field for insurance risks. Neither of these gentlemen had previously been engaged in the underwriting business. Mr. Hunt was well known in New York, where he had been engaged in the mercantile business, and easily succeeded in securing the agencies of several good companies, including the Home,

Niagara and Park. Mr. Hopkins was less fortunate, though more persistent, and finally obtained the agency of the Lafarge, a company having a small capital, and some indirect connections with five other companies.

In 1857 Edward McLean secured agencies from the Hartford, Phoenix and Merchants of Connecticut, and the Quaker City of Philadelphia. Armed with these positions, and with subsequent business partnerships with John Fowler and C. T. Hopkins, an open war was inaugurated with the high rates maintained by what was known as the Board Companies. This was the first, but not the last, struggle of that kind.

It is not pretended that the above were the only Eastern and foreign insurance companies that had agencies in this city between 1849 and 1859. There were many others, the names of some of which are not now recalled.

As early as 1853 C. K. Garrison was the agent here of the Hudson River and Franklin Insurance Companies of New York.

In 1854 the Metropolitan of Boston was represented here by Samuel A. Chapin, and the State Mutual of Pennsylvania by William Mansfield & Co. These companies issued both fire and marine policies.

Mr. Hopkins was of much service in the McLean agencies along the marine line of business, being familiar with shipping and making his own surveys. The business grew, and several more agencies were added, including the Girard of Philadelphia, the Goodhue and Corn Exchange of New York, and the City Fire of Hartford, besides the agencies of four marine companies of New York and Philadelphia. Sub-agencies were established in a number of the more important towns in the interior of the State.

Other companies planted agencies in San Francisco in 1857 to 1859, including the Hamburg-Bremen, with Morris

Speyer as agent; the Aetna of Hartford, with Wm. Falkner and E. H. Parker as agents. There was also a life insurance company here as early as 1853 in the agency of the British Commercial of London, with a capital of $3,000,000.

Insurance Rates in the Early Years.

The first local insurance organization was the California Mutual, formed in August, 1853, with Mr. Fontaquene as manager, and Mr. Malye as secretary. The office was at No. 9 Bartlett street, an alley running off Jackson, between Kearny and Dupont. It advertised to take risks on brick buildings for six months at 3½ per cent per month. There was a species of local insurance even earlier than that, as the record shows that some private bankers advertised in 1852 to take insurance risks.

The introduction of agencies of Eastern and foreign insurance companies in the early fifties wiped out these local forms of underwriting. The representatives of these outside companies formed a Board of Fire Underwriters for the regulation of rates. On first-class brick buildings the rate was 2 per cent, and on merchandise stored in the same 2½ per cent. On second-class brick buildings the rates were 2½ and 3 per cent, respectively. On third-class, with frame exposure, the rates were 3 and 3½ per cent, respectively. On frame buildings, plastered, with brick chimneys, and no frame exposure within 150 feet, 3½ per cent. These were about the only insurable risks in the city until 1858, when competition broke down the rates. Presumably, these were the monthly rates. At this distance they look pretty good, but it is not in evidence that they were unusually high, considering the existing conditions at that time.

First Mutual Insurance Company.

Charles D. Haven is quoted as authority for the statement that the first fire insurance company organized under the laws of California was the German Mutual Fire Insurance Company of San Francisco, which was organized July 12, 1858. J. W. G. Schulte was president; Frederick Meyer, vice-president; John Kohlmoss, secretary, and Nicholas Van Bergen, treasurer. Some of the older residents remember these gentlemen. The office of the company was at 136 Washington street. It was a peculiar organization. The office was open only one hour in the day, and the business was restricted to the German population. Another peculiarity was the absence of any capital. A still more remarkable feature is the fact that the company continued in existence for ten years, issuing no policies after June 25, 1868. Its business was thoroughly successful. Every dollar of loss was paid, and the company retired honorably from the field. The reason for its retirement was the enactment of a law by the California Legislature requiring insurance companies in California to have a capital of $100,000. The company had conducted a successful business for ten years without a dollar of capital, and the organizers did not see the necessity of the guarantee demanded by the new order of things, and so wound up the business as speedily as possible after the demand had been made.

First Joint Stock Insurance Companies.

It was really not until 1861 that local capital became interested in local underwriting. It was certainly not until that year that the first local joint stock company was organized either for fire or marine business. It was during the year 1861 that the California Mutual Marine and the San Francisco Fire Insurance Companies were incorporated.

The former was reincorporated in 1864 as the California Insurance Company. The San Francisco Fire Insurance Company had a short but honorable career. It was incorporated in March, 1861, a month after the incorporation of the California. Its capital was $300,000. Its first secretary was George C. Boardman, who subsequently became president of the company. Business was good from the start, though the subsequent multiplication of other companies in the city resulted in considerable competition and the narrowing of profit margins. The stockholders, in view of this competition, on the 8th of June, 1868, by a vote of 2,566 shares out of a possible 3,000 shares, decided to disincorporate, and the risks were soon afterwards reinsured with the Liverpool and London and Globe Insurance Company. The San Francisco Fire Insurance Company paid several liberal dividends, the last one, which was for the first quarter of 1868, being at the rate of 1½ per cent per month.

After the incorporation of the California and San Francisco, it became a comparatively easy matter to enlist capital in the local underwriting business, though it took the people about two years to be educated up to that point.

In 1863, three of these local organizations were launched. These were the Merchants' Mutual Marine, the Fireman's Fund, and the Pacific. In 1864 two more came into existence under the names of the California Home, and the Home Mutual. In 1865 three more were added, bearing the names of the Occidental, the Union and the National. The Builders', a sort of monstrosity, was the only addition in 1866. The People's came into existence in 1867, the Mechanics' in 1868, and the Oriental in 1869. Then followed a rest of two years, during which it was thought enough of these corporations had been formed.

In 1871 the State Investment was incorporated, followed

in 1872 by the Commercial from the ashes of the People's, burned out in the great Chicago fire of 1871.

In 1874 the California Farmers' and the Alameda County were incorporated. It was four years before there was another venture of that kind, and this was given the name of the Western. After a lapse of two years, the Oakland Home sprang into existence, and in the following year the Sun Insurance of San Francisco shed its first beams on the public. In 1885 the new corporations were the Southern California and the Anglo-Nevada, followed in 1888 by the Alta.

Twenty-five Locals in Thirty Years.

From the foregoing statement it will be seen that twenty-five companies had been organized under the laws of California for the purpose of fire and marine underwriting prior to 1889. There was an interval of thirty years between the organization of the first and the last of these companies, one coming into existence in 1858 and the other in 1888. There were no further organizations of this character formed in the State for many years afterwards. The first of these was a purely mutual organization, and of San Francisco origin, while the last was a joint stock organization and originated in Stockton. All the above companies were started in San Francisco, except four. These exceptions were the Alameda County and Oakland Home in Oakland, the Southern California in Los Angeles, and the Alta in Stockton. The first organized of the above list had an existence of ten years and the third of seven years. The San Francisco Fire Insurance Company issued its first policy in April, 1861, and paid its first dividend in the following August. In all, it paid its stockholders $302,000 in dividends, and at the final winding up the capital was returned in full, together with a surplus of 20 per cent. It must ever be remembered, to the credit of the

managers of these two pioneer insurance companies, both of which retired in 1868, that they met all obligations promptly and in full, and with profit to all concerned.

There were two other retirements in 1868. These were the National and the Builders. The National was organized in December, 1865, with a capital of $1,000,000 in greenbacks invested in United States 7.30 bonds. This was the first and only company started in the city on a paper money capital. That fact constituted its chief element of success. The greenbacks were purchased at a heavy discount, as they were down to a gold value of about 35c to the dollar in July, 1864. The bonds were bought with this depreciated money. The company continued in existence a little over two years, declining to take further policies on June 12, 1868. The company paid $120,000 in dividends in 1867 and $30,000 for the first quarter of 1868, or $150,000 in all. In the final dissolution of the company the bonds were sold to good advantage, greenbacks in the meantime having shown much appreciation in value. More money was made out of this appreciation than from the insurance end.

The Builders' Insurance Company retired from business in 1868, but not voluntarily. It had an existence of about two years. It was brought into being by Thomas Mooney as a sort of adjunct to his savings bank. It wrote on everything offered, and had the largest line of risks in proportion to capital of any of the local companies. It was closed up by the Commissioners.

The Oriental was organized in June, 1869, and was in existence for less than one year. It never paid a dividend, and was closed up by the Commissioners for its refusal to repair its impaired capital.

Thus, of the fourteen companies incorporated between 1861 and 1869, both years inclusive, five failed to survive the decade in which they came into existence.

Just when and how the California Home and the Mechanics' Insurance Companies retired is not recalled. They were incorporated in 1864 and 1868, respectively, but were not mentioned in subsequent reports of local companies, and must have come to a premature end.

At the close of 1869 the only local companies in existence were the California, Fireman's Fund, Home Mutual, Merchants' Marine, Occidental, Oriental, Pacific, People's and Union.

These companies had a paid-up capital at that time of $3,783,600, and gross assets of $5,864,892. They reported an income for 1869 of $2,539,658 from premiums and $478,234 from other sources. Losses paid for the same year were $1,290,000, while the dividends to stockholders were $464,344. They wrote $119,925,300 in fire and $78,942,000 in marine risks in 1869, and had outstanding at the close of that year $92,850,500 in fire and $12,386,800 in marine risks. That was the condition of affairs at the end of the first decade of local underwriting in San Francisco.

Insurance Combination and Supervision.

The first Board of Fire Underwriters was organized in 1861, and the first Board of Marine Underwriters in 1864. There was a sort of compact among the agents of Eastern and foreign companies doing business in the State previous to 1861.

In 1865 the Pacific Insurance Union was organized after three years of labor. This was an organization that took in all the companies and agencies doing business in California, Oregon and Washington Territory. It included 108 organizations, representing $350,000,000 of capital, and having an annual income of $6,000,000.

Even with all these safeguards, the business was greatly demoralized, especially in 1867, possibly after there had

been some breaches in the ranks. Up to that time no State officer had been charged with the supervision of the business. In March, 1868, this want was supplied by the Legislature, then in session, which created the office of Insurance Commissioner, and enacted some other necessary legislation along that line. George W. Mowe was the first Commissioner appointed under the new law, and Andrew D. Smith was his deputy. This action cleared the atmosphere of many irregularities and abuses that had become attached to the underwriting business in the State in the second decade of its history.

Heavy Fire Losses.

The first decade of underwriting in California was a trying one to Eastern and foreign companies represented here, owing to frequent and serious conflagrations in the State, particularly in San Francisco.

The second decade was noted for heavy marine losses, owing in part to the destruction of the Arctic whaling fleet by the pirate steamer Alabama, sent out in the interests of the Southern Confederacy.

The third decade, from 1870 to 1879, witnessed three large fires in Virginia City, Chicago and Boston. The Chicago fire started October 7, 1871. It was the largest fire known in this country up to that time. In a few hours the accumulation of years went up in smoke or fell to the earth in ashes. That fire covered an area of 1,800 acres in the business and residence portion of the city, and sent 85,000 people into the streets homeless. There was widespread sympathy for the sufferers, and thousands of dollars were sent from all parts of the country to relieve the wants of the destitute.

On November 9, 1872, occurred the great Boston fire, one of the severest ever experienced in that city.

On October 26, 1875, Virginia City, Nevada, was visited by an extensive and costly conflagration, which swept away half of the business portion of the city, and destroyed the homes of a thousand or more of the inhabitants.

These three great fires affected all the local insurance companies to a greater or less extent. At that time most of the local companies had established agencies in the Atlantic States, and had worked up considerable business in the great cities. The first blow was the severest of all, but the second, coming so soon afterwards, though less severe, was felt quite as keenly, because it struck the companies in an enfeebled condition. The third blow, three years later, though less serious than either of the other two, came home with considerable force, because struck at short range.

Fortunately, the intervening years had been good ones to local underwriters, enabling them to partially recover from the losses of 1871 and 1872. Besides, the experience of those years, though dearly purchased, had exercised a salutary effect on the managing officers, resulting in more caution and a better distribution of risks and reinsurance. The Chicago fire upset all previous data of average fire losses to average fire premiums, and thus the work of a century went for naught. Underwriters were taken off their feet by these calamities. Up to that time there had been no precedent for calculating the results of such an event. It was thought such a combination of calamities might never happen again, and certainly not for a generation or more, and that seemed to be a sensible conclusion.

Big Chicago Fire Burns Out Three Locals.

One of the results of the Chicago fire was to wipe from existence three of the local companies, having a paid-up capital of $1,600,000. One of these was the largest and

strongest of the companies then in operation. This was the Pacific, which was organized in July, 1863, with a capital of $750,000, subsequently increased to $1,000,000 by capitalizing $250,000 of surplus. The company took a leading place from the start. It had a large and well selected list of stockholders, including many of the most prominent business men of the city. For the year 1866 its income from all sources was $587,080. It had then been in existence only thirty months, and was paying dividends of 2 per cent per month. Four quarterly dividends of $6 per share, amounting to $180,000, were paid in 1866. These dividends were not kept up, being altogether too liberal. In the following year the company paid only $60,000 in cash dividends, omitting the dividend for the last quarter of that year. It was in that year that $250,000 was taken from the surplus and added to the capital stock. A stock dividend of corresponding amount was given to the shareholders. This was considered ample compensation for the decreased amount received in cash dividends in 1867.

The Pacific was getting into good shape in 1871, just before the Chicago fire. It had established agencies in New York, Chicago, Denver, Salt Lake, Virginia and Portland, in this country, besides foreign agencies in China, Japan, Australia, the Hawaiian Islands, South America and Great Britain. In 1866 it absorbed the local agencies previously held by Bigelow & Brothers of this city, which included the Arctic, Home, Phoenix, and Washington of New York, and the Hartford of Connecticut. In consideration of this amalgamation, H. H. Bigelow was made general agent of the Pacific. Jonathan Hunt was president, and A. J. Ralston was secretary. When the telegraph announced the fire in Chicago, the assets of the Pacific were $1,750,000, or $750,000 above capital stock. It was first thought that the company could stand up under its loss, and an assess-

ment of 75 per cent. was levied to cover the claims. Further investigation convinced the stockholders that the entire assets of the company had been wiped out, and that the only thing to do was to go into insolvency, which was done.

Another local company involved in the Chicago fire was the Occidental, organized in 1865 with a capital of $300,000, and a well selected directory of leading business men. It was a purely fire company, with Chr. Christiansen as president, and B. Rothschild as secretary. The management was cautious, and only first-class risks were accepted. Eastern agencies were opened. Large lines had been written in Chicago. The fire came and the Occidental went. It had never met the enemy before in such deadly conflict, and it lost the battle, the entire assets being annihilated. No attempt was made to start anew.

The People's was the third local company to suffer by the same event in Chicago. This company was incorporated October 30, 1867, with a capital of $100,000. It was known as a popular company. It was not considered as conservative as some of the others, and that probably was what made it popular with a certain class in every community. It was organized for business, and the managers went for everything in sight. Naturally, they were not over-critical as to hazards. If the property owner wanted to insure and was willing to pay the premium demanded, the bargain was generally closed. Good luck attended the company from the start. The losses were small compared with the premium realized. The business was extended to the Atlantic States. That of itself was not a bad move. It scattered the liabilities of the company, which is regarded as sound underwriting. The company soon commenced the payment of dividends. The capital was increased to $300,000. The Chicago fire occurred. The People's had large

risks there, and all was gone. The stockholders submitted to the inevitable, and went into liquidation. Of the paid-up capital, $100,000 was taken from surplus earnings.

The destruction of these three local companies by the Chicago fire wiped out $2,550,000 of capital and reserve, and left nothing but ashes.

Two other local companies suffered by the same conflagration. These were the Fireman's Fund and the Union. At that time the capital of the former was $500,000 and of the latter $750,000. After the fire there was a consultation of the directors of both companies. The field was canvassed. It was known that the Pacific, Occidental and People's were hopelessly involved. For the fair name of San Francisco, it was resolved to let that suffice, and to save the other two companies. Some of the stockholders who had lost all in the three companies which had gone into liquidation were also stockholders in the other two crippled companies. They resolved to stand by their fellow stockholders, and thus save at least two brands from the terrible ordeal.

The Fireman's Fund levied an assessment of 50 per cent, and the stockholders put up $250,000 of new money. The Union levied an assessment of 45 per cent, amounting to $337,500, which was promptly paid in. A year later both companies were caught in the great Boston fire. Instead of levying another assessment, the Fireman's Fund restored its impaired capital by writing off $200,000, thus reducing it to $300,000. The Union stockholders went without their dividends for a time. These were heroic acts, but both companies were subsequently prospered, and were held in higher reputation than before.

Only Strictly Marine Company Retires.

Another event of the third decade was the retirement from business of the Mutual Marine, the only purely marine

insurance company that ever had an extended career in the city. This company was incorporated on April 20, 1863, with a capital of $500,000 in 100 shares. The promoters evidently designed to have it a very select organization. Four years passed, and their minds underwent a slight change. The number of shares was increased in July, 1867, to 1,000 to the par value of $500. This change multiplied the number of stockholders, but not to the same extent as $100 shares would have done. The first dividend was paid in February, 1868, at the rate of $5 per share. These dividends were maintained for forty-seven consecutive months. There were also four extra dividends of $15 per share each in the same interval. These were paid in August, 1869, January and July, 1870, and January, 1871. The last regular dividend was paid in December, 1871. The company capitalized $250,000 of its surplus earnings before it began paying dividends. The company was prosperous so long as it confined its business to this port. It established agencies in New York, Liverpool, Hongkong and other foreign ports, and made a net loss of $256,900 on those agencies. At the close of 1873 it was decided to wind up the business, and the dissolution was completed by order of the Court in January, 1881. It not only returned the original capital in full, but $583,000 in dividends.

New Companies and Retirements in 1880-9.

The fourth decade of local underwriting in California was characterized by a variety of events. Five new organizations came into being between 1880 and 1889. These were the Oakland Home, with a capital of $200,000; the Sun, with a capital of $300,000; the Anglo-Nevada, with a capital of $2,000,000; the Southern California, with a capital of $200,000, and the Alta, with a capital of $200,000.

Three of these were located at Oakland, Los Angeles and Stockton, respectively. These were the Home, Southern and Alta in the order named. The Sun and Anglo-Nevada were San Francisco corporations.

Three of these went out of existence during the decade that brought them into being. These were the Alta, Southern California and Anglo-Nevada.

The full title of the last-named was the Anglo-Nevada Assurance Corporation. It was organized in November, 1885, with a larger capital than had ever been given to an insurance company under the laws of California. It was the intention of the promoters to make it the leading underwriting company of the Pacific Coast. James C. Flood and John W. Mackay were prominent in the movement. It paid its first quarterly dividend for the last three months of 1886 in January, 1887, at the rate of 1½ per cent. Two more quarterly dividends of the same amount were paid in the following April and July. Then came a slump of bad luck in the loss of several wheat ships on which risks had been written.

The company resumed dividends in March, 1889, at the rate of 50c per share monthly, and these were maintained until the close of that year, making a total of $180,000 returned in dividends to stockholders. Soon afterwards the company went out of business, reinsuring its risks in the London and Lancashire and the Fireman's Fund.

The Southern California of Los Angeles and the Alta of Stockton declined further business in 1892, both reinsuring their risks in the London and Lancashire. The former paid $28,000 in three dividends. The Alta paid no dividends.

Four other companies retired during the same decade. These were the California, Commercial, Union and Western.

The Commercial Insurance Company was organized in February, 1872, as the successor of the People's. It had a

prosperous career for several years on a paid-up capital of $200,000. This was more than doubled in addition to regular monthly dividends of 1 per cent. A turn of bad luck in 1889 resulted in the suspension of dividends, followed at the end of that year by an assessment of $30 per share to repair impaired capital. On the 1st of January, 1890, it was decided to wind up by reinsuring the risks in the Palatine of Manchester, England.

The Western, organized in 1878 with a capital of $200,000. The company paid $52,000 in dividends from 1880 to 1883, voluntarily retiring from business in 1886 by reinsuring its risks in the State Investment, which then doubled its capital.

Union Sells to Alliance at Good Figure.

The Union Insurance Company was absorbed by the Alliance of London in 1891, after having been in continuous and successful existence from April, 1865. The deal was made through the purchase of a control in the capital stock. Under this manipulation the stock rose from 80 in September, 1891, to 109 by the end of the following October. The cost price at which the transfer of capital, assets and good will was effected was $119 per share, making a total of $892,400. The paid-up capital was $750,000. The company erected the three-story brick building it occupied in 1865. This was the first substantial improvement in that block on California street. The losses of the company in the Chicago fire amounted to $500,000, which was partially made good by the assessment levied on the stockholders. Apart from that loss, the company earned 15 per cent per annum for twenty-five consecutive years, of which 9½ per cent was derived from investments and 5½ per cent from the underwriting business proper. During that quarter of a century it paid its stockholders an average of 12¾ per

cent per annum in dividends. The Alliance Company continued the business in the building erected by the Union Insurance Company until the same was destroyed by the big fire of April, 1906. It suffered heavily on its California business in that fire. The premiums it received on business in this State in that year were $107,323, while the losses paid were $1,448,572.

California Oldest Local.

The California Mutual Marine, organized in 1861, and reincorporated in 1864 as the California Fire, had an unique beginning and a successful career. The original capital was $200,000. This was divided into twenty shares of $10,000 each, and was apportioned equally among twenty men, each of whom put up $1,000 in cash on his share and executed a note for the other $9,000. No one was allowed to have a share unless worth $100,000, and no one was allowed to sell a share unless to a purchaser approved by the Board. Dr. Samuel Merritt was chosen president, and C. T. Hopkins secretary. The full list of the original stockholders was as follows: Dr. Samuel Merritt, A. J. Pope, W. C. Talbot, William Norris, Michael Reese, John G. Bray, C. W. Hathaway, J. J. Felt, H. B. Tichenor, D. C. McRuer, James Findla, Levi Stevens, Charles Main, S. C. Bigelow, John Van Bergen, George H. Howard, H. T. Teschmemacher, James G. Clark, Charles F. Lott and Pedar Sather.

Three years sufficed to convince the above gentlemen that their organization was a little too narrow and exclusive to admit of the largest success which all of them desired, and so in March, 1864, the company was reincorporated as the California Insurance Company. The capital was paid up in full, the par value of the shares reduced to $100, the restriction against the sale of stock eliminated from the by-laws, and a department of fire insurance added.

The fire business was discontinued in 1867, but renewed

in 1869. In 1871 a marine branch was opened in New York, but discontinued after two years of severe losses. It was not until 1881 that a fire agency was opened in the Atlantic States. The company thus fortunately escaped the big Chicago and Boston fires of 1871 and 1872.

The first cash payment on account of capital of $20,000 was paid up in February, 1861. In July, 1864, earnings of $80,000 were capitalized. This made the paid-up capital $100,000 at the time of reincorporation. In January, 1865, there was a cash addition of $40,000 to the capital and $60,000 capitalized from earnings. In July, 1870, an addition of $50,000 new capital was paid in and $50,000 earnings capitalized. This brought the capital up to $300,000. In March, 1881, the capital was doubled by the payment of $300,000, making the capital $600,000. Of this amount the stockholders paid up in cash $410,000, while the other $190,000 was from earnings as capitalized on three occasions.

The California Insurance Company voluntarily voted to retire from business in May, 1892.

In addition to $190,000 given to stockholders in the form of stock dividends, there was also paid them $1,432,286 in cash dividends. The $600,000 capital was still intact, besides $150,000 in surplus.

The total assets of the California on March 31, 1892, were $1,105,226. At that time the estimate cost of reinsurance was $206,125, and all other liabilities $149,102, leaving $750,000 to be returned to stockholders. Of this amount, $410,000 was the actual amount they had personally contributed to the capital and the other $340,000 represented accumulated profit, which added to the cash dividends paid, made the profit earnings from all sources $1,772,286. The company reinsured its risks in the Fireman's Fund Insurance Company.

The California, before retiring in 1892, had five presidents. Dr. Merritt held that position for 18 months, and was succeeded by D. C. McRuer, who continued in the office until elected to Congress in 1865. Albert Miller then held the office for one year. He was succeeded by C. T. Hopkins, who continued to serve until his retirement from the underwriting business on July 31, 1885. L. L. Bromwell followed and remained until the company retired from business.

In the final winding up the stockholders received all the money they had paid in on account of capital and the earnings that had been capitalized, and also a good bonus dividend. The company was never disincorporated, and in 1905 it resumed business under favorable conditions and met the heavy reverses of 1906 with heroic courage.

The Home Mutual was organized in September, 1864. It was not a mutual, but a joint stock concern. Its capital originally consisted of the amount represented in endorsed notes. It seems this was allowed under the law at the time of its organization. Later, the law in that particular was amended, and in 1870 it was reincorporated under a paid-up capital of $300,000. The company enjoyed a good business from its inception, and for many years paid regular dividends of 1 per cent every month. Its stock commanded a high price.

The Fireman's Fund Insurance Company at first purchased some of the stock of the Home Mutual as an investment for its surplus cash in the same way and for the same purpose as it purchased shares in other corporations. Eventually it secured control of all its 3,000 shares at a cost of about $600,000. The company continued in business as an independent organization. It purchased the building formerly occupied by the California Company at a cost of $150,000, and moved its business to the same. After the

fire of 1906 its risks were cared for by the Fireman's Fund, but the Home Mutual is still a corporation, though it has written no risks since 1906.

The local companies in active existence at the close of 1889 were the Fireman's Fund, Home Mutual, Oakland Home, State Investment and Sun, with a combined capital of $2,200,000.

The Sun Insurance Company, with a capital of $300,000, organized in 1881, was the last fire and marine business to come into existence in San Francisco. For the past thirty years no San Franciscan has had the courage to organize a company of that kind. So far as can be recalled, there has been only one joint stock fire and marine insurance company organized in any part of the State for the past twenty-four years. The exception is the Los Angeles Fire Insurance Company, which was incorporated in April, 1910, and began business in the following August. This company takes only fire risks. At the close of 1911 it reported a paid-up capital of $209,000. Net risks written in 1911 throughout the State, $1,429,232; net losses paid, $12,596; net losses incurred, $8,528; income, $35,800; disbursements, $47,000; admitted assets, $304,800.

At the close of 1891 there were five joint stock fire and marine insurance companies of local origin in operation in San Francisco and one in Oakland. At the close of 1911 only three of these six were in existence, and only two of those three were transacting business. The three that retired during the interval were the State Investment and Sun of San Francisco and the Oakland Home of Oakland. The last annual report of the State Investment was for 1892, and showed a paid-up capital of $400,000, assets of $623,400, income for the year $774,300, including $730,600 from premiums; expenditures $768,700, including $455,700 for losses. In the following year, because it refused to

restore impaired capital to the extent of $247,400, its license to do business was withdrawn on May 10, 1893.

At the close of 1892, the Sun reported a paid-up capital of $300,000 and assets of $532,400. Its income for that year was $322,000, including $203,000 from premiums; and its expenditures, $344,600, including $194,000 for losses. The company retired from business in 1895, reinsuring its risks in the Fireman's Fund Insurance Company.

The Oakland Home had a paid-up capital of $200,000 at the close of 1892 and assets of $583,300. Its income for that year was $636,666, including $612,600 from premiums, and its expenditures, $618,700, including $366,400 for losses paid. It retired from business in 1894, reinsuring its risks in the Fireman's Fund Insurance Company.

The only joint stock fire and marine insurance companies of California origin in business in 1911 were the California and Fireman's Fund of San Francisco and the Los Angeles of Los Angeles. These companies wrote fire risks to the extent of $35,051,000 and marine risks to the amount of $82,474,400 in 1911. The premiums received were $867,800 from fire risks and $479,500 from marine. Losses paid were $259,900 on fire and $255,300 on marine. Risks in force at the close of the year were $67,679,200 fire, on which the premiums were $1,189,300, and $11,033,-300 marine, on which the premiums were $303,000.

At the close of 1911 the paid-up capital of the California was $400,000 and admitted assets $1,320,500.

The Fireman's Fund reported a paid-up capital of $1,500,000 and admitted assets of $8,649,600 at the same time.

The income of the California for 1911 was $823,300; disbursements, $693,900. Income of Fireman's Fund for the same year, $5,819,100; disbursements, $5,264,700.

County Mutual Fire Insurance Companies.

The elimination of so many fire insurance companies prior to 1898 undoubtedly led to a new form of local insurance protection against fire throughout the interior of the State under the name of County Fire Mutual Insurance Companies. Four of such companies were incorporated in 1898 in as many different counties outside of San Francisco, three more in 1899, one in 1900, two in 1902, three in 1906, three in 1907, one in 1909 and one in 1911.

These 18 companies, representing 18 of the 58 counties of California, wrote risks to the amount of $8,785,680 in 1911, for which the premiums received were $66,103, while the losses paid during the same year amounted to $31,853.

During the year 1911 there were 151 joint stock and mutual fire and marine insurance companies authorized to do business in California. The field has always been an attractive one to these outside companies, which numbered 130 in 1911. The number authorized to transact fire business in that year was 114, and the risks written amounted to $966,664,270, while the premiums received were $16,154,900. The total of risks shows a considerable decrease from the previous year. The losses paid were $4,604,200, a decrease of $1,409,200.

These figures show that 3.6 per cent of the fire business was written by California companies with a loss ratio of 29.9 per cent; 63.6 per cent by companies of other States with a loss ratio of 28.5 per cent; and 32.8 per cent by companies of foreign countries, with a loss ratio of 28 per cent.

Ratio of Fire Losses to Premiums.

From 1884 to 1911, both years inclusive, premiums received on fire insurance effected in California amounted to $231,265,439, while the losses paid in the same interval were $236,221,012. The comparison shows a net loss of

$5,000,000 on this particular feature of the insurance business.

The one great disturbing factor to underwriting in California in that interval was the heavy losses incurred in San Francisco and other parts of the State in 1906. Usually the ratio of losses to premiums in the State has varied from 28 to 44 per cent. In the past 37 years the ratio has been under 30 per cent four times. The lowest level was 26.3 per cent in 1878. It has been from 30 to 40 per cent in nineteen years. It has been from 41 to 45 per cent six times; from 50 to 55 per cent six times. In 1895 it was over 60 per cent, while in the following year it was 69 per cent. Those two years were the worst in twenty years. The fire insurance business can withstand such misfortunes where they do not occur any oftener than that.

But the unexpected and unprecedented event of 1906 upset all schedules of averages of fire losses to fire premiums. The premiums received in that year were $13,368,-351, and the losses paid $146,306,377, thus raising the ratio of losses to 1,094 per cent of the premiums. The premiums received in 1906 were $3,000,000 in excess of the previous year, which was also a record year. In 1907 there was a further increase of $2,900,000 over 1906. The average for the following three years was about $15,000,000. In 1911 the total nearly reached the record total of 1907.

Losses by the First Five Big Fires.

The five great fires that occurred in San Francisco during the first two years of its occupancy by the goldseekers were severe trials to the limited number of residents, as the first directory published in September, 1850, contained only 2,500 names. But it was a brave crowd that met and surmounted these disasters.

According to Hittell's History of San Francisco, the

first of these great fires occurred on December 24, 1849. It was the first Christmas greeting to the newcomers, warm and costly. This fire destroyed all the buildings on Kearny, between Washington and Clay, which were the most expensive erected up to that time, including the Parker House, a two-story frame, for hotel guests and gamblers. The loss by this fire was $1,000,000.

The second great fire was on May 4, 1850, when three blocks were destroyed, occupied largely by merchants. Loss, $3,000,000.

The third great fire started on June 14, 1850, and burned everything from Clay to California streets and from Kearny street to the waterfront. Loss, $3,000,000.

The fourth great fire began on the night of May 3, 1851, just one year from the second big fire. This was the most extensive as well as the most expensive conflagration in the city up to that date, and destroyed sixteen blocks in the business section, including the Custom House on the northwest corner of California and Montgomery. The loss by this fire was $7,000,000.

The fifth great fire of that early period was on June 22, 1851, when eleven full blocks were burned, with a loss of $2,000,000.

A loss of $16,000,000 in two years in that pioneer period of the city developed deeds of courage and self reliance which are still prominent features of all true Californians.

The Big Fire of the Century and Country.

These fires in the early years of California were considered great hardships to the comparatively few involved. In subsequent years San Francisco was visited with similar disasters of more or less magnitude.

But the fire of April, 1906, involved a greater loss, probably, than all the preceding ones combined.

City Engineer Woodward, in his report of that fire,

placed the burned area at 2,593 acres, equal to a little over four square miles. This area included the destruction of 490 blocks of buildings, together with the partial destruction of 32 other blocks, all in the business portion of the city.

Scores of Eastern and foreign fire underwriters were involved in the disaster. The property destroyed has been estimated at from $450,000,000 to $500,000,000. It is believed the latter total is nearest to the actual fact.

More than one hundred adjusters were kept busy for several months in ascertaining the liabilities of the insurers. Honorable dealing was put to a severe test in many cases. Some of the companies stood the test, and others failed, though in some cases not altogether voluntarily, but from their inability to pay in full. Insurers had to prove their losses beyond the shadow of a doubt before they would be allowed. These proved claims amounted to $225,000,000 in the aggregate, and while many of the outside companies paid in full on these approved claims, some of the insured did not recover as much as they thought was due them.

How the California and Fireman's Fund Met It.

The three local companies involved in this disaster were the California, Fireman's Fund and Home. The Fireman's Fund owned the Home, and joint policies were issued under a third corporation known as the Pacific Underwriters. While, therefore, local underwriting was distributed among these four corporations, the liabilities fell upon two, namely, the California acting for itself alone, and the Fireman's Fund, responsible for its own corporate business and also that of the Home Fire and the Pacific Underwriters.

The California had only resumed business in 1905. Its high standing when previously in business, and its honorable retirement from active existence in 1892, made it easy to secure a new clientage, and at the time of the disaster

in April, 1906, its outstanding risks were quite large. Of course, its losses by that event were correspondingly heavy. But its name and reputation were two good assets, which the stockholders could not afford to voluntarily surrender even under such a heavy burden as this severe trial had imposed upon them. With the spirit of true and tried Californians, they met their reverses by an assessment upon their own paid-up stock. This is now seen to have been a good investment. It has already resulted in satisfactory returns.

The buildings owned and occupied by the Fireman's Fund and Home Fire were destroyed in that conflagration, together with valuable records.

At the time of this calamity the Fireman's Fund was doing business in all parts of the country. To protect the policies issued on property in other States, the first thing to do was to form a new organization to assume these outside obligations, and this was done. The next thing was to care for the local sufferers. An assessment of $3,000,000, or $300 per share, was levied for that purpose. Because of the heavy losses sustained by many of the stockholders and of the losses on the large investments in the stocks of local corporations, all of which had suffered in the disaster, only $1,900,000 of the assessment was collected in cash.

The gross claims of the companies involved were $11,000,000, together with $400,000 for return premium claims on the Home Fire. The supposed resources in sight were put down at $7,000,000, but this amount was not fully realized.

The proved claims were settled at 50 per cent on the dollar in cash and 50 per cent in capital stock rated at $500 per share, the par value of which was $100 per share. As at the time of the fire the stock of the company of the same par value was selling at $450, it was assumed that

the new stock given in payment of losses would eventually be worth $500, and that would be equivalent to paying the losses dollar for dollar. The stock has already commanded $245 per share.

BANKING BUSINESS IN CALIFORNIA

Banking and business go hand in hand. They are inseparable. Whether banking makes business or business makes banking is a problem that has never been satisfactorily solved, and no attempt will be made in this connection to answer that question. There were banks in San Francisco in January, 1849. As a merchant in Sacramento in 1849, the late D. O. Mills did some banking in connection with the selling of goods, and in 1850 he opened a private bank in that city, which has been in continuous existence since, and is therefore the oldest bank in the State. It subsequently incorporated under the laws of the State, and later went into the national system under the name of the National Bank of D. O. Mills & Co. Mr. Mills was first a merchant and then a banker, and a high type business man generally, both in California and in New York.

Private banking was the rule in California in the pioneer years. As late as 1906 there were 34 private banks in operation in the State. Three years later there were only 15. Under the law which went into operation on July 1, 1906, no distinction has been made between private and incorporated banks, though a few of the former are still in operation.

Banking in California has undergone many changes since 1849. Generally these evolutions have been for the good of the service, and that means to higher and more perfect standards of sound banking.

Official Supervision—Cost Under Commissioners.

Prior to 1878, the banking business of California was without State supervision of any kind. For the next thirty-one years it was under a State Board of Bank Commissioners. Since July 1, 1909, it has been under the supervision of a Bank Superintendent, with full power to appoint his own deputies and clerks. The former Commissioners were appointed by the Governor, and the Superintendent of Banks under the new law gets his appointment from the same source.

The expense of the service under both forms of supervision has been borne entirely by the banks. It is one of the very few of the State Commissions, if not the only one, that is self sustaining. The comical feature of this situation lies in the fact that the banks pay for their own police protection, but have no voice in the selection of those chosen to perform the service.

Three Commissioners constituted the Board for the first twenty-five years. The cost of the service for the first year was fixed at $13,400, and for the first nine years it was kept pretty close to that total. Under increased salaries in 1887 the limit was raised to $18,600 per annum.

In 1903, the number of Commissioners was increased to four, and other expenses were also added, which brought the outlay to $29,200 per annum.

The writer estimates the cost of the supervision of the State banks by the Commissioners for those thirty-one years of service was $540,000, every dollar of which was paid by the banks.

New Form—Increased Cost.

The law which went into operation on July 1, 1909, provides for an expenditure not exceeding $75,000 per annum for the cost of the service, which includes $10,000 for the Superintendent of Banks.

According to the report of the Superintendent, the cost of the service for the third year ending June 30, 1912, was $74,903, of which $60,150 was for salaries, $4,094 for traveling expenses, $3,645 for rent, $3,008 for printing, $1,129 for furniture and books, $548 for stationery and supplies, and $2,329 for general expenses.

The law provides for semi-annual examinations for every commercial bank and annual examinations for every savings bank. This means 770 examinations annually, 124 of which applied to the parent bank and branch offices, necessitating two examiners instead of one. In this connection the report of the Superintendent says: "It is imperative, if the work of the department is to be properly carried on, that a fund of not less than one hundred thousand dollars be provided, and that all receipts by the department be also made available for its use."

The Superintendent also recommends that a per diem charge be authorized to be paid by such banking institutions as require special or unusual attention from the department. He also thinks that an audit of accounts by competent auditors should be required by law from every bank under State jurisdiction, the expense of such service to be paid by the banks.

Departmental Banking.

The present banking law was framed after much careful investigation of the best systems in force in other States, with such modifications as banking experience in California could suggest to meet the wants of all sections and all possible conditions.

The law provides for departmental as well as separate forms of banking, and clothes the Superintendent with full power to enforce its provisions, holding him responsible for a faithful performance of his duties.

Parties desiring to go into the banking business can

elect any one of three forms, as commercial, savings or trust, or can combine two or all three under the same roof and the same management, provided the accounts of each are kept separately and as distinct one from the other as if the three departments were miles apart and under entirely different managements.

Ample provisions are made for each department, covering every detail of the business. Provision is made for the establishment of branch banks.

Departmental banks, whether the combination is savings and trust, commercial and trust, or savings, commercial and trust, must have a paid-up capital of $225,000, but a commercial and savings business may be conducted with a paid-up capital of $25,000. Paid-up capital and surplus must at all times be equal to 10 per cent of the deposit liabilities, but no savings bank shall be required to have a capital and surplus in excess of $1,000,000.

Despite the unusual care exercised in framing the present Bank Act, the Superintendent for the third year of its operation has found many of its provisions which he thinks can be improved, and for the accomplishment of which he does not hesitate to recommend legislation.

It is a repetition of the old illustration of the difficulty of harmonizing theory and practice. It is comparatively easy to propound plausible theories for the conduct of any kind of business. It is quite another thing to apply them literally in practice with success in the highest and best sense. The Superintendent says:

"These defects in the banking laws of this State are apparent both from the point of view of this department and of the safe banker. They suggest on the one hand the need of a more effective supervision of banking institutions, and on the other greater elasticity of banking operations thoroughly within the limitations of absolute safety."

This statement is followed with a somewhat lengthy list

of suggestions and recommendations for the improvement of the Bank Act by the Legislature.

In addition to State supervision, the Clearing House banks in San Francisco and Los Angeles employ their own special examiners, which cover all the member banks, whether State or National. It would be well if all Clearing House banks in every part of the State pursued the same course.

First General Bank Statement.

The writer made the first compilation of the condition of all the known incorporated State banks in the State at the close of 1876. There were 91 banks in operation at that time, with a combined capital and surplus of $49,206,000, individual deposits of $119,835,000 and aggregate resources of $182,460,000.

The State was experiencing a series of bank troubles at that time which continued for some years afterwards, during which there was a considerable shrinkage in bank resources.

Statements of private banks were first incorporated in these reports in January, 1888. At that time 158 State banks reported a paid-up capital and surplus of $58,298,000; individual deposits of $133,376,000, and resources of $201,393,000.

Ten years later 252 State banks had $60,457,000 paid-up capital and surplus, $195,075,000 in individual deposits and $267,912,000 in aggregate resources. A country-wide bank panic occurred during that decade, and the business had not entirely recovered from the effects of that event. Just previous to that panic these banks reported a capital and surplus of $79,459,000 and resources of $286,134,000.

In 1908 the reports from 500 State banks showed a paid-up capital and surplus of $107,055,000, individual deposits of $437,405,000 and resources of $587,795,000.

The reports of the State banks for August 14, 1912,

shows 523 banks in operation, inclusive of 63 branches, with a paid-up capital and surplus of $97,832,000, individual deposits of $547,232,800 and resources of $676,068,600.

National Bank System Introduced.

The first national bank opened for business in California in 1871, and it has been in continuous existence ever since. This was the First National Bank of San Francisco.

Ten years later, 10 of these banks reported their capital and surplus at $3,675,000, individual deposits $3,873,000, resources $9,681,000.

At the end of the next decade 37 of these banks reported capital and surplus of $12,045,000, individual deposits of $18,490,000, and resources of $33,475,000.

At the end of the third decade, 41 of the banks reported capital and surplus of $15,015,000, individual deposits of $36,427,000, and resources of $67,125,000.

Since 1902 the multiplication of national banks in California has been much more rapid. Starting with 46 in that year, the average gain for the next three years was 11 per annum, against a maximum of 7 for every preceding year, except 1887, when the gain was 10. From 79 of these banks in operation in the State in 1905, the number reporting the next year was 104, a net gain of 25 in a single year. In the following four years the net gains were 19, 9, 13 and 31, respectively, or a total gain of 72 in that interval.

In the past two years there has been a further gain of 55 banks, bringing the number up to 231 on the 4th of September, 1912. On that date these banks reported capital and surplus of $88,649,500, individual deposits of $225,-002,300, and resources of $500,466,700.

The number of banks in California under the State and national systems in 1872 was 71, with a paid capital and surplus of $41,593,000, individual deposits of $72,064,000

and aggregate resources of $114,717,000. That is as far back as there are reliable statistics of the banking business in the State as a whole.

There was not much increase between 1872 and 1882, because of the bank troubles which intervened. In the last-named year 87 banks reported capital and surplus of $39,376,000, individual deposits of $92,557,000, and aggregate resources of $140,882,000.

Ten years later this branch of business was on the top wave of prosperity, having fully recovered from the depression existing in the previous decade. The year 1892 was a prosperous one throughout the country. In that year 255 banks were in operation in the State, with a paid-up capital and surplus of $87,805,000, individual deposits of $196,599,000 and aggregate resources of $298,133,000. These were the largest totals in the history of the State to that date.

The great bank panic of 1893 caused a considerable shrinkage of bank capital throughout the United States, and California suffered with the other States. The 303 banks in operation in the State in 1902 reported paid-up capital and surplus of $82,143,000, individual deposits of $335,378,000, and aggregate resources of $452,231,000.

Banks Under State and National Authority.

During the last decade the banks in California have enjoyed a greater degree of prosperity, judging from surface conditions, than for any previous one. The expansion has been quite phenomenal.

The reports from the State banks in 1912 are for August 14th and from the National banks September 4th. A combination of the reports for those dates shows the operation of 754 banks in California, with a paid-up capital and surplus of $186,471,400, individual deposits of $872,-237,100, and aggregate resources of $1,176,535,300.

During this last decade there has been much more than a doubling up all round. An increase of 100 per cent on the large totals of 1902 would have been cause for much congratulation. But the increase has considerably improved on that figure.

From 303 banks in active operation in 1902, the number has been increased to 754 in 1912. From a paid-up capital and surplus of $82,143,000 in 1902, the total has been raised to $186,471,400. In the same interval the individual deposits have been increased from $335,378,000 to $872,235,100, and the aggregate resources from $452,231,000 to $1,176,535,300.

If the decade just ahead shows a corresponding degree of progress and prosperity, the expansion will mean much to the State, really more than can be realized.

San Francisco's Prominence in Banking.

San Francisco has played no inconsiderable part in this display of banking expansion in the State as a whole.

It is quite natural that this should be so, because of its large population and its prominence as the metropolis of the Pacific Coast.

There have been years when there were more banks in San Francisco than now, but there has never been a year when its banking resources were so large.

In the last report of the Superintendent of Banks, San Francisco is credited with only 37 banks, while Los Angeles is given credit for 38. But, when it comes to further comparisons, the odds are largely in favor of San Francisco, both from the standpoint of State banks as well as National banks.

The reports of the State banks of San Francisco for August 14, 1912, show aggregate resources of $264,394,400, against $123,760,000 for Los Angeles.

There are 9 National banks in each of these cities. The resources of these banks in San Francisco on September 4, 1912, were $240,848,000, and in Los Angeles $80,037,200.

On the above dates San Francisco controlled nearly 40 per cent of all the State bank resources and nearly 50 per cent of all the resources of the National banks in the State. Of the combined resources of all the banks in the State on the above dates the San Francisco banks had 43 per cent.

These comparisons between San Francisco and Los Angeles, and between San Francisco and the remainder of the State, including Los Angeles, are not made in any spirit of boasting, or with any desire to belittle other sections.

San Francisco's prosperity is the best evidence that can be cited of the State's prosperity. No section of the State can prosper without indirectly contributing to the prosperity of every other section. The prosperity of any single industry in which the State is interested helps every other legitimate industry.

Those who take a narrower view than that of all forms of business and industrial life, take a false view, and inflict a personal injury to themselves.

It is fortunate for California as a whole that it has such munificent banking resources. These resources are not all of her own creation. The favorable conditions of business here have attracted much banking capital from other parts of the country, as well as from other parts of the world.

The great distance of California from the wealthy financial centres of the East must lead every citizen to rejoice in and fully appreciate the comfortable financial conditions that make it possible to handle the enterprises and products of the State so easily and on such favorable terms.

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